

SONG OF DEATH by ED EARL REPP

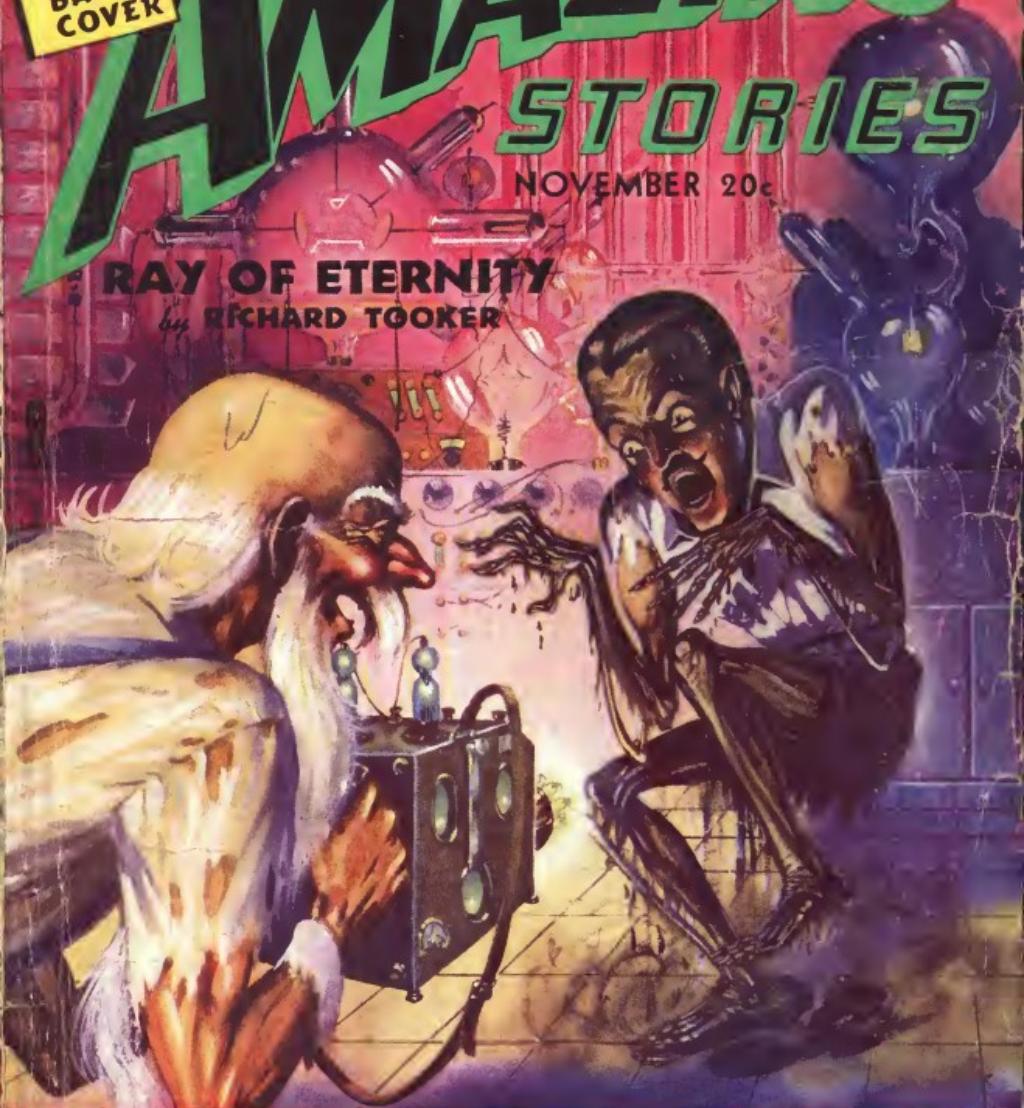
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BACK
COVER

AMAZING STORIES

NOVEMBER 20c

RAY OF ETERNITY

by RICHARD TOOKER



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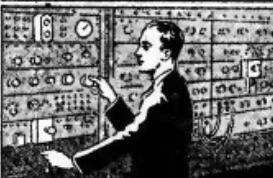
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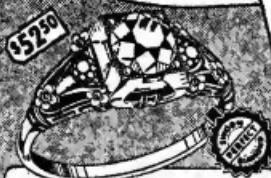
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NOVEMBER

1938

VOLUME 12
NUMBER 6

AMAZING STORIES

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Cover painting by Robert Fuqua depicting a scene in Ray of Eternity
Illustrations by Robert Fuqua and Julian S. Krupa

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The Observatory By THE Editor

OUR contents page this month lists a great lot of stories, and a great list of authors. We've got the thrilling conclusion of Weinbaum's story of America's future, "Revolution of 1950"; and that in itself would seem aplenty. But it makes us very proud to present a couple of other mighty fine authors to stand beside Weinbaum. Richard Tooker, who wrote that swell novel, "Day of The Brown Horde" brings us "Ray of Eternity" presenting a brand new idea with terrific suspense and some fine writing.

Then comes Thorp McClusky back to our pages again with an evolution story that will make you sit up and take notice. We've had evolution crammed down our throats now for so long that we've been taking it for granted. Here's one author who throws a new light on what really might happen if evolution were hastened. Seems to us we should have realized the truth of this before, but since we haven't, McClusky gets first honors for debunking the evolution fiction of the past.

"The Man Who Lived Twice" by Edmond Hamilton, and "Song of Death" by Ed Earl Repp are typical of these two old-timers, and we can guarantee they won't lose any of their reputation with these yarns.

Frederic Arnold Kummer, Jr., is repeating again with a space story with a real punch to it. If you like action and suspense, and a lot of good interplanetary science, here's the story to read.

And finally, we present Thornton Ayre (better remember that name from now on!) with "The Secret of the Ring." Plot? You readers who like a story with meat to it, and who enjoy a darn good mystery, will really sink your teeth with delight into this one. Whoever told Ayre to develop a new technique sure knew his stuff. Frankly, we didn't think Ayre could repeat his "Locked City" stunt, but he's done it. And from the looks of things, your editor has another manuscript on his desk that will make three in a row.

* * *

Dr. David H. Keller's well-remembered science fiction story "Stenographer's Hands" originally published in AMAZING STORIES during 1928, has proved its value by remaining as a real "classic." It has been reprinted in several anthologies, has appeared in other languages, notably in *Les Primaires*, the French literary review, and in various other foreign countries. In England, it appeared as recently as this year. Now, his "The

Ivy War" seems destined to become the second of his works to be presented to the world as the ideal science fiction story.

* * *

Theoretically, if you were to take a glass of water and mark your initials, by some micromagnetic means, on each molecule of H_2O and then disposed of the water in whatever way you wished, you could wait a year and wherever you are at the time, take up a glass of water, of any kind handy, and you would find fifty of your initialed molecules in it.

* * *

Gravity has been conquered! Dr. F. T. Holmes and Professor J. W. Beams, of the physics department of the University of Virginia, have accomplished true levitation in a scientific manner by spinning a rotor 1,200 times a second while suspended in a vacuum. A clever balancing of the downward thrust of gravity by an upward thrust of magnetism produces the desired result.

The most amazing factor in this accomplishment is the reduction of friction in a moving body. If artificial braking devices were not used, it would take this spinning rotor 160 hours to come to a stop, the loss in velocity being only one revolution per second in eight minutes!

Space travel, here we come!

* * *

In our August issue, the best liked stories were "The Meteor Monsters" and "The Blinding Ray," both of which ran neck and neck right down to the finish line. Arthur R. Toft and Alfred R. Steher, our two newest writers, seem to have done right well with their first efforts. Third place was taken by "Time For Sale" by Ralph Milne Farley.

* * *

With AMAZING STORIES appearing monthly from now on, we are considering the use of longer lengths in serial form. However, before we begin regular publishing of this type of story, we would appreciate a word from our readers concerning their preference. Would you rather see only complete stories in each issue, or would you prefer to have two and three part serials included in our contents?

* * *

As you will have already noted, this issue of AMAZING STORIES appeared on the stands on September 10. The December issue will appear on October 10, and this date will be maintained

throughout. However, where the 10th falls on a Saturday, Sunday, or Monday, the magazine will be released on the preceding Friday.

* * *

Dr. Harlow Shapley of Mt. Wilson Observatory has brought forth a new and baffling mystery. Adopting a new means of measuring astronomical distances derived from the discovery by Miss Leavitt of Harvard, in 1912, that the brighter Cepheids in the Lesser Magellanic Cloud fluctuate slower than the fainter, Shapley slowly evolved a true conception of the shape and size of our own galaxy. His method was amazingly simple. Placing measured celestial objects—clusters, stars, nebulæ—where they belonged in their relationship to the Milky Way, he proved the universe of which our solar system is a part, to be disc shaped, much on the general order of a pocket watch.

After years of painstaking work, he found the center. It proved to be a massive star cloud in the constellations Sagittarius, Ophiuchus and Scorpio. The exact center, to his amazement, he found to be hidden behind vast, dark clouds. Like a giant hole in space it looked, but it was no hole. Behind that dark cloud, lost in the concealing folds of a mysterious curtain, was something vast, something incredible, even to the imagination.

Around this blackly shrouded center of the universe, forty billion stars rotate at a speed of two hundred miles per second in periods of hundreds of millions of years. And therein lies the proof of the existence of a new and colossal mystery deep within that dark mass of cloud.

Can it be that within that cloud spins a great galactic nucleus, a super-sun so huge that it dwarfs the visible suns of the cosmos as a boulder dwarfs a grain of sand?

According to Einstein, the size of a celestial body must remain within certain limits. That is to say, no sun can be so huge as the super-body that would seem to be hidden there at the center of the universe, and still retain its identity. Radial pulls against gravitational force would inevitably tear apart any body which became too great in mass to retain its elemental cohesiveness.

The largest known sun is Betelgeuse, truly the giant of the visible objects of the cosmic heavens. Betelgeuse is twenty-five million times as large as the sun that mothers the Earth. Einstein conceives that any body larger than that would be an absurdity.

Then what is the mystery of the gravitational forces of the center of the universe?

Nor is this the end of the mysteries that Shapley brings to our attention. This disc-shaped universe is only a minor actor in a greater, infinitely vaster play. Already, with existing telescopes, more than two million nebulae are known, and each can easily be a universe as complex as our own. And the incredible distances already measured astound the imagination. The Andromeda nebula, to point out an example, is 800,000 light years away. And when we try to grasp the incredible figure, in miles, that light travels in only one year, we begin

to realize the distance that nebula lies from our own universe.

Obviously, having found a "center of the universe" we must now move on to a vaster universe, a larger cosmos, and speculate on the nature of that super-galaxy. Perhaps some day we will discover the center around which the billions of minor universes revolve in endless procession. Or rather, some day, we may discover the *fallacy of original reasoning* which has plunged us into this vicious circle of confusion. For it is obviously a wrong concept of things as they really are. We cannot conceive of limitlessness, and to expound such a theory, we would have to fly in the face of the only factor we have in our favor, our sense of reasonableness. Everything must be finite. This illusion of infinity which astronomy has created has given to us too incredible mysteries for us to grasp without a new basic concept.

* * *

Undoubtedly the strangest haunt of life on this planet is in the ocean depths. Six miles below the surface the pressure is two and one-half tons to the square inch. But there is no deep too deep for animal life. And these animal forms are sometimes incredible, but quite logical. Long, delicate legs lift the body out of the treacherous ooze; there is often an exquisite development of tactility well fitted for a world of darkness; the body is often porous and so thoroughly penetrated by water that the great pressure is not felt.

As there are no plants in the abysses, the struggle for existence must be keen, and it is a horrible world of sudden death. A world where every species is cannibalistic.

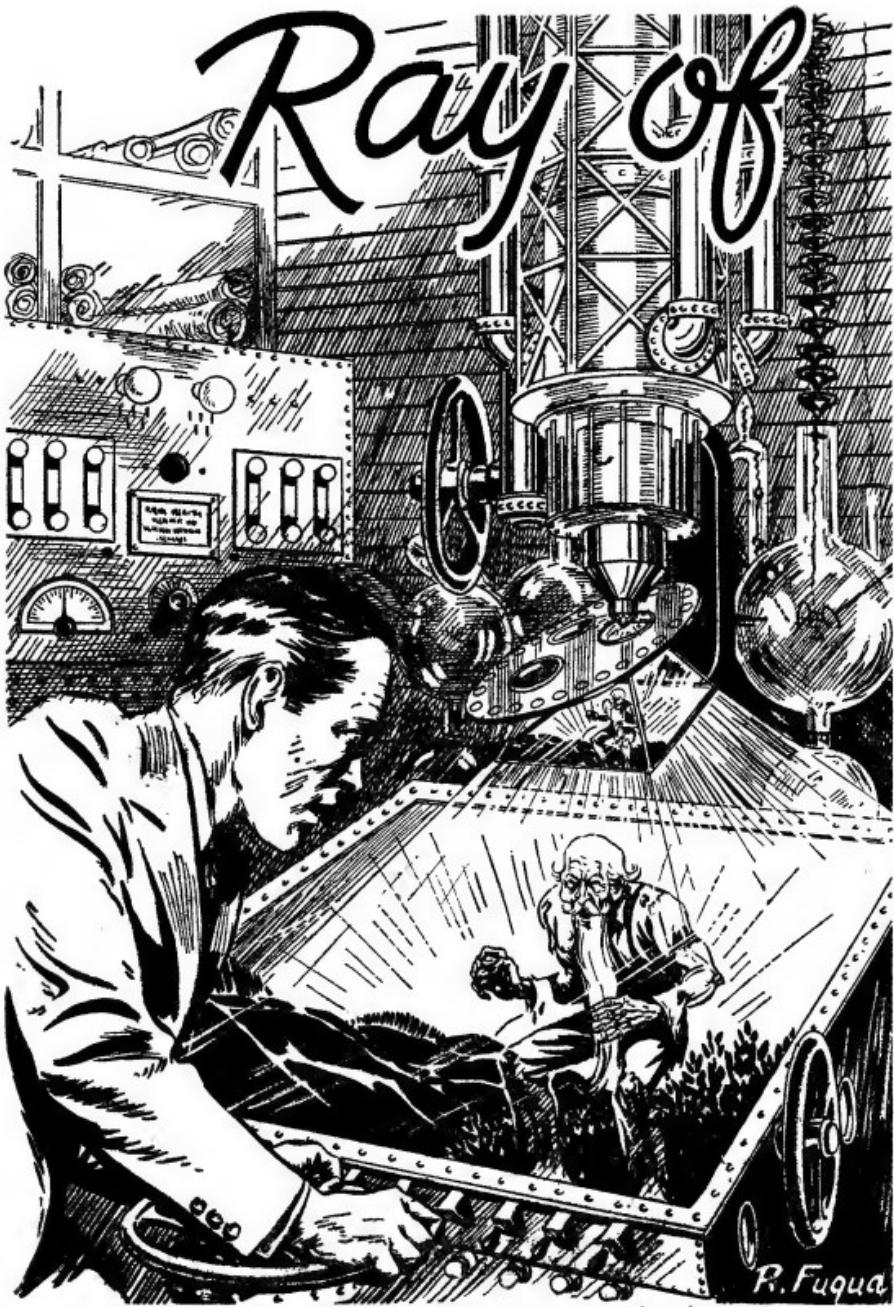
* * *

As an added note on Richard Tooker, articles have appeared recently in both Esquire and Ken under his by-line. Thus, with the appearance of Ralph Milne Farley in a recent issue, also, this makes the third of our writers who have enjoyed that distinction. Arthur R. Tofte led the parade.

"The Dawn Boy" by Tooker, a science novel, is to be translated in the French, for publication over there. This novel is laid in France pertaining to and in the time of the Cro Magnon man. That the French themselves are translating it is some testimony to the accuracy and visualization of the author in writing the novel.

* * *

No doubt you have noticed the nature of this month's back cover feature? In a future issue we will present our idea of the space ship of one hundred years from now. It may seem to many that placing space travel so near the present is a bit over optimistic, but when the facts are considered closely, there are but a comparatively few discoveries necessary to bring it almost over night. And the greatest of these is a new type of fuel. It could be discovered any time. Mechanically, space ships are perfectly possible, and quite excellent designs have been created both by our own Professor Goddard, and by German savants.



In the telescope mirror a dark, skeletal silhouette rose against the molten sunset

Eternity

Vingie and Ron Sherman came down into the valley searching for her father. They found instead a terrible desolation, and an incredible menace

By
**RICHARD
TOOKER**

CHAPTER I

The Prophet

"**L**OOK!" Vingie Sherman seized her young husband's arm so violently that his grip was dangerously shaken on the steering wheel. The big, black sedan was creeping in second down a winding, canyon-side trail above a yawning drop-off of several hundred feet.

Ron Sherman stamped on the brake pedal so abruptly that the big car bumped its own axle buffers. He didn't need to look twice. Vingie was pointing out the window like the charming youngest of Fate's three sisters.

Several hundred yards away and down from the raw bluff they were descending, in a clear space between irrigated trees, was a high, woven-wire fence, like a poultry run. Half a dozen or more dogs of indeterminate breeds milled around nervously inside the fence. A tall man in a wide-brimmed hat stood facing the dogs. He held something in front of him like a huge camera.

The two on the canyon trail had scarcely grasped the salient details of the scene, when they realized that something damnably uncanny was happening to those dogs. The poor brutes acted as if they had rabies. One howled piteously. Those dogs were stiffening

somehow, staggering, swaying. Yes, they were actually shriveling, shrinking in size before their very eyes.

They were looking at dogs—gaunt specters of dogs—and then, in seconds, there was nothing but the fence and a man with a dull-finished box in his arms. Wavy streamers of mist floated up from the empty fence, quickly dissipating in the clear, still, desert air. Suddenly, the fence sagged and crumpled in on one side.

The man stood a moment inspecting the ruin he had evidently wrought, then turned with the instrument slung to his breast, and strode away through the trees. An orderly huddle of brownish mission adobes was partly visible in the distance; a deep-well watered rancho hidden away in this remote tributary of Arizona's Paradise Valley.

"It's Eli Martin's place!" Vingie's voice quivered a little, her piquant face pale and strained.

Ron Sherman's square, cleft chin jutted stubbornly as his practical business-brain strove to reject the evidence his eyes had presented. His lazy, blue eyes were no longer lazy as he scanned the hostile rocks above him, the poison green of palo verdes in the ravine below. He had come out here to look for two missing men—one of them Vingie's father. He hadn't believed there was

anything really wrong. Now he half wished he had brought a cordon of G-men.

With a mumbled imprecation he released the brakes, and once more they were rolling on impetuously along the stony road that horseshoed down and down toward watered fields—green plots of pasture, fragrant citrus, that now seemed the smiling mask of a stirring menace.

Ron Sherman wasn't a scientist, not even the blood relative of one as was his blonde and ultra-modern young wife. Ron was a very practical executive in charge of the thriving Sherman Aircraft Works. One of his fastest ships had brought him and Vingie from distant Ohio to the landing field at Phoenix, heart of the Southwest. When Vingie's father and his old partner, Adam Holt, had gone west to confer with an obscure inventor concerning an alleged sensational discovery, he'd thought little of it. Just another false alarm that would turn out impractical, he'd concluded. Now he swallowed an unpleasant lump that tightened his generous neck-band. Dogs that turned to smoke! A perfectly good fence collapsing in thin air!

"If this was California, I'd say it was a movie stunt," he muttered as they leveled off at last at the foot of the cliff-side trail.

The ranch buildings were not visible at the lower elevation. Irrigation ditches, fringed with tall, rank grass, bordered the reddish brown gravel of the road they turned into. Fig trees shed a dense, depressive shade in the hot stillness, oddly death-like as they saw no sign of fleshly life.

Then they saw it. Vingie gasped as Ron trod on the brake. Through the rich green of a young citrus grove on the left stretched a triangular space of the most utter desolation they had

ever seen. The scythe of an incredible demolition had cut through the field in a widening span, as if a branding iron of immense proportions had been impressed there by a Titan hand.

Ron started to speak, to stammer something about a plant disease, when they heard a rustling in the trees at the edge of the desolated strip. Vingie's shriek rang out as Ron instinctively recoiled from the ghastly apparition that tottered into view from the outer fringe of living trees. A man, an awful travesty of a man, so old that it seemed he must fall to pieces with every flexing of his skeletal joints. A bald, shriveled skull bulked abnormally large on thin, bent shoulders. Rags of garments flapped from the scarecrow form. In one withered hand he held a crooked staff of trimmed mesquite wood.

"Howdy, old timer," Ron called out, shakily. "Is—is this the right road to the Martin ranch?"

A wavery grin bared toothless gums in a face that might have belonged to an Egyptian mummy. Sound from the shriveled throat seemed a long while coming. Finally, the quavery, feeble voice reached them as if from another world:

"There's no-o tomorrow—no-o-o tomorrow!"

A haunting sadness racked the broken voice. It was as if the burden of a world's mourning had wailed out at them from the roadside. One skinny arm wavered up as they stared. The patriarch of the blasted grove was beckoning palsiedly.

"Let's see what he wants," Ron cleared a phlegm from his throat. "Come along, but stay close to me."

Ron kept a suspicious eye on the old man as they got out of the car. The animated skeleton was craning its neck jerkily, ogling down the road in the direction the car was headed. The trans-

parent guile of an idiot was evinced in every twitch and flicker of the corpse-like features. The thing that once had been a man was mortally afraid of something—more afraid of it than he was of strangers.

Slowly the old man led them deeper into the desolated strip that scarred the grove. Presently he tottered to a stop at an odd-shaped mound so vaguely defined that it hadn't been noticeable from the road. There could be no doubt of it after a second, horrified look; that mound had the bloated outlines of a human figure!

They could say nothing as they stared down at the fearfully unnatural remains. The incarnate Father Time had hobbled away and was beckoning them to another human-shaped mound.

"Stay back!" Ron's voice was hoarse as he set himself for the worst.

"I'm not afraid," Vingie vowed with half a sob. "If it's dad, I want to know."

Then they were looking down together at what lay in the shadow of the living citrus trees. A withered mummy of a man! A few faded tatters of clothes still clung to the dried husk of a body. Workman's clothes. Ron could see a little light as he stared down fascinatedly. This and the other mound were all that was left of laborers caught in the inexplicable catastrophe that had slashed a trail of annihilation through the grove. Evidently, this one had escaped the full effects of the awful blight.

Ron swung on their guide suddenly. For a moment he wanted to strangle the gibbering, old idiot. He seized the frail shoulders, shook them as hard as he dared.

"What's happened here?" he demanded. "Who are you anyway?"

An expression of woe unspeakable slowly contracted the shrunken features. Ron let go the shoulders in a

wave of pity. Again the gaunt throat retched in the travail of speech as the crooked staff wagged upward, pointing to the sky:

"There's n-n-no tomorrow—n-no to-morrow."

They had hoped for something more, some clue at least to the explanation of it all. But it seemed useless to reason further with a mad man. Ron did not try to stop their guide as he started away at a tottery run, cackling a feeble laughter as he went. A little way off, the awesome prophet of the blasted grove stopped and looked back. His voice quavered eerily to their ears:

"There's n-no tomorrow—heh—heh—heh!"

Ron wheeled and started for the road. He seemed oblivious to Vingie, trotting at his side. Before he plumped down under the steering wheel, he reached under the seat, pulled out a black, snub-nosed automatic and slipped it into the side pocket of his palm-beach coat.

They drove on glumly at a snail's pace. They no longer noticed the broiling heat of the desert sun. No sound attended them save the purr of the motor, the crunch of the tires. Not even a bird's flight stirred the air of menacing desertion that thralled the lonely road and empty fields.

At the end of a tamarack-shaded lane, they turned a corner and saw the ranch buildings before them. A rambling, flat-roofed hacienda, winged around a square Spanish patio. The other buildings with barred windows looked like tiny fortresses.

Ron stopped the car under the vine-smothered arbor at the end of the drive. His moist palm pressed the gun in his side pocket. Somehow, though, he derived little comfort from the feel of the weapon. His feet grated like an avalanche in the graveled drive as he stepped out. The crunch of quick, ap-

proaching steps arrested him. Vingie cried out startled as a sinister figure strode out into the drive, confronting them with hostile suspicion in his hard, sullen eyes. The man they had seen at a distance undoubtedly, and suspended from his square, military shoulders was the camerlike machine they had seen trained on the dogs. But there was nothing camerlike about the thing on close inspection. More like a huge searchlight without a lens. Large perforations in the gunmetal housing revealed the green glimmer of radiating tubes and filaments. The round, quicksilvered reflector in front was covered with a coarse-meshed copper screen, through which a mass of cathodes peered out like the stamens of a carnivorous flower.

Ron Sherman was too practical-minded to accept miracles without adequate evidence. But as he looked into that poisonous bloom of metal, behind which long, tapering fingers toyed with knobs and levers, the sweat of reasonless terror poured from his face.

"Sir, would you mind turning that thing the other way?" he asked brittlely.

Greenish brown eyes in a high, fanatic's forehead darted from Ron to Vingie. The man spoke rapidly in a raspy tone with a faint trace of foreign accent:

"You have nothing to fear if your motives are friendly. I am Eli Martin and I've had all I can stand of interruptions. Who are you?—and your credentials had better be mighty good."

Ron introduced himself and Vingie with a gulp, went on to say what they had come for. . . . "We didn't want to notify the authorities," he concluded, "until we were sure there was something really wrong—"

Eli Martin interrupted with an impatient gesture. "You may be thankful

you didn't notify the authorities, Sherman. I've been looking for Rand and Holt myself. But I wasn't too surprised when they failed to show up. Not when the ranch is being watched by two of the cleverest espionage organizations in the world. It's a wonder that you and your wife got through without being stopped and questioned, if not murdered. Get out, Mrs. Sherman, and come in. You and your husband are perfectly safe as long as you accept the inevitable."

Vingie was very quietly observing as they entered the cool, rustic living room of the hacienda. Their host waved them to chairs, said formally, "I'll have some refreshments in a moment." He paused at the archway leading to the rear, looked back, then hurried on.

"I wish we knew what Martin looked like—before we met him," Ron said when the man was gone. "There's something phoney about that fellow."

"I happen to know," Vingie whispered, "that Eli Martin was a much older man. Be careful, Ron—that fellow is—"

But their host was gliding in with a tray of drinks. His thin lips were curled in a knowing smile. "These walls have ears, my friends," he chuckled—"very good ears; I made them myself—tiny radiophone transmitters. . . . It's a long story, but if you're considerate I might explain why Eli Martin looks years younger than his age."

Ron swore a silent oath as he met Vingie's startled glance. The horse's necks were tasteless to their mechanically sipping lips. Eli Martin still wore the harnessed instrument as he sat down across from them, surveyed them with insolent appraisal.

"Mr. Martin," Vingie's voice was tremulous, "is there nothing you can tell us about my father and Adam Holt?"

Martin shrugged indifferently. "I find it hard to be much concerned over the fate of two men with civilization hanging by a thread. I'll have to tell you that my own life is in great danger. As for you, I doubt that you can ever leave this ranch alive unless you are emissaries of Bordoni or Osaka. In that case I'll have to dispose of you. The future of the time screen means more to me than human life."

"The time screen!" Vingie echoed.

"Yes." Eli Martin's eyes blazed lustfully as he glanced down at the instrument in his lap. "This device I'm carrying is a portable model of the Martin time screen, which Rand and Holt were interested in for development by the Midwest Laboratories. My plans have changed, however. I have decided to operate alone with certain exceptions."

"But I can't see why my wife and I should be in danger," Ron put in. "We know nothing of this time screen."

"Of course you know nothing," their host laughed shortly. "But that won't prevent these armament scouts from snatching you and your wife, pumping you for information, and then murdering you to shut your mouths."

"As you've noticed, I've had to dispense with all my help. Couldn't trust them. I am one against the world, but I have the weapon to defend myself and more. And an airplane manufacturer dropping in was just a bit of manna from heaven—not to mention his charming wife. It has been lonely here."

Ron got up decisively, his lips curled with scorn. He tried to act as if he saw nothing alarming in the ruthless ardor of the man he faced.

"I'm afraid we can't accept your hospitality, Martin. For my wife's sake I must at least attempt to get back through the lines of these enemies of

yours. If they are actually holding my wife's father and Adam Holt I may be able to arrange their release."

Eli Martin did not appear to be listening. Some noise outside seemed to have attracted his attention. "Just a moment," he interrupted curtly, and strode out the door.

Hot words were on the tip of Ron's tongue. Then he caught Vingie's warning glance and sat down stiffly. Before they could speak they heard the quick, grating strides of Martin's return. As the man came in he wore an air of feline satisfaction.

"I think you'll find my hospitality rather welcome now," he bowed mockingly. "It's a long walk back to civilization."

Ron leaped up, ran to the door, looked out at the drive. A hoarse cry of dismay racked his lips as he saw a skeleton of moldering iron, rusted beams, where the car had stood.

He whirled back, fists clenched.

"I wouldn't if I were you," Eli Martin said softly. "Human flesh ages much faster than the iron bones of an automobile."

Ron's right hand hooked to draw the gun in his coat pocket. Eli Martin shook his head slowly. "One flick of my finger, Sherman, and that gun of yours will be even more useless than your primitive fists. Sit down and calm yourself. You and your wife have blundered into a hand in the greatest game ever played in the history of humanity. The stakes are world dictatorship—absolute power for the man who wins—and I do not intend to lose!"

CHAPTER II

Dream of Conquest

ELI MARTIN relaxed as Ron cautiously let fall his gun hand before the deadly calyx of metal over which

nerveless fingers were poised.

"That's better, Sherman. And now some explanation may convince you and your wife that, willing or not, you must serve me. But first kindly turn over to me that antique toy in your pocket. It might cause me a slight inconvenience."

Ron remembered the vanishing dogs, the blasted grove, the ruined motor car. Slowly he took out his gun, extended it to Martin, butt foremost.

"Now we can discuss the future," Martin said as he pocketed the weapon carelessly. "Follow me and attempt no violence."

He turned abruptly to the door, not hesitating to walk ahead, though he glanced back frequently. They crossed the patio to the opposite wing. A heavy steel door swung open to the grate of a key. Lights were switched on in a long, elaborately furnished laboratory, the shades close drawn. At one end of the room were steel lockers like a row of prison cells.

Across a miscellany of benches, sinks, cabinets, lathes, their attention was irresistibly drawn to a massive table, covered with a slab of glass or quartz. Over the table, in tier on tier of delicately prismatic layers, were a score or more reflectors of some fragile composition. A network of tenuous filaments connected the reflectors, gradually converging into heavier, main cables, that in turn were attached to the aluminum bases of several specially designed and monstrous radio-active tubes.

"The original working model of the Martin time screen," their captor-host gestured grandiosely toward the glistening assemblies. "You may observe several points of similarity between it and the portable model I carry as a very efficient side-arm. No doubt you noticed as you drove in that there was no living thing on the ranch."

"With the exception of an old man—

a very old man," Ron answered quickly, watching Martin intently.

The greenish eyes flickered with a crafty reserve. "Oh, yes—old Tombstone Danny. Harmless old idiot; pans a little gold now and then. . . . To return, let me repeat that life has disappeared from the ranch environs for a very significant reason. In perfecting the time screen as an annihilator of living flesh, I was forced to sacrifice all my livestock and most of the wild life near here. Since then I've been having some difficulty in obtaining living forms to experiment on. Just before you came I screened some stray dogs I had trapped in a fence with carrion bait."

"We saw it," Ron muttered, and Vingie nodded mutely.

"So much the better," Martin smiled one-sidedly. "You know what the screen will do to living flesh. To make sure you are convinced I'll demonstrate just what happened to those dogs, and incidentally part of the fence. I couldn't avoid that."

He turned to a screen-covered crock nearby. They heard a frantic scurrying as Martin drew on a tough leather glove and reached in. His hand came out with a squirming pack rat, gnashing viciously at the gloved fingers holding it.

Ron and Vingie watched fascinatedly as the rat was quickly anesthetized. Martin laid the inert body in the middle of the quartz table and turned to them.

"The rat is still very much alive," he said, pointedly. "Now, watch, as I move this overhead switch to the very lowest calibration. And whatever you do, stand back. The screen is focused just inside the edges of the table. Your hands would drop off your wrists in a cloud of cosmic dust if they had endured an infinite fraction of the aging that table top has passed through during scores of experiments."

Eli Martin stood back cautiously, reached overhead deftly. A beam of pale green light rayed down on the table and the rat. For an instant the body of the rat grew in size—a skinny, malnutritioned, bony growth. Then the brown hairs turned wiry and harsh, grayed, withered. The hair fell away from the shriveling skin and vanished in whiffs of vapor. They were staring at the frizzing skin, and then they saw only the bones of a very old rat. An instant the bones held firm, then they, too, were heaps of skeletal contours—dust of decay that turned to nebulous mist and vanished.

Vingie gasped as Martin shut off the switch. Ron's face was grim and hard.

"That is what happened to the dogs," Martin's harsh voice boomed hollowly in the still room. "Your car stood up a little better. Hard materials aren't so easily destroyed, but what is most important, a single flash of the time screen projection renders any mechanism absolutely useless, just as if it had dried out and rusted in a junk yard. Living flesh may recover from a flash projection, as the cells rebuild themselves, but dead matter never recovers even from a flash exposure to the screen."

"But how—what is the principle of this terrible process?" Vingie breathed

in an awe that was half feigned. Ron knew she was stalling for time, and desperately he racked his brain for a way to overpower or escape this half-mad inventor whose weapon was like the magic of the gods.

Martin's eyes gleamed unnaturally bright, with an almost gloating relish for his theme. "The principle of the

time screen isn't easy to explain to the lay intelligence, madam. Like most cosmic forces, man can harness them, use them, but he can't explain them. However, I can clarify the action of the time screen to some extent by outlining my theory.

"You think of time as seconds, minutes, hours. Time isn't that any more than an inch or a foot is actually distance. Distance is absolutely unaware that it is composed of inches, and so time is unaware that we compute it in hours and eons. Actually, time to us is nothing more nor less than the visible manifestations of



The flesh vanished in whiffs of vapor, leaving only the bones of an old rat

processes—the processes of evolutionary change in material forms. In terms of cosmology, what we call 'time' is nothing more nor less than the universal force that governs the rate of change from one state to another.

"It was while studying the cosmic rays with a super-fluoroscope of my own invention that I discovered amaz-

ing evidence of a vastly more important ray. I did not dream at the time that what I had stumbled upon was the 'time' ray, the universal governor of evolution. Then, by concentrating the very rays I was investigating, I generated a negative force which neutralized the time ray within the radius of projection. When half my laboratory was destroyed by the negating screen I was forcibly impressed with the stunning magnitude of my discovery.'

"The ray I had discovered was the cosmic stabilizer of all phenomena of change in the processes of creation and de-creation, birth, growth, death. With the soundless and almost invisible power of the time screen I had goaded the governors of evolution to a frenzy of speed. Growth and death were almost instantaneous. In fact, at maximum expulsion, the time screen could revert matter to the invisible, etheric stage which precedes the nebula in the cycle of world building."

Eli Martin's enthusiasm had risen to fever pitch as he rounded out his exposition. He seemed oblivious of his audience, though the portable screen was still trained on them. . . . "I, Eli Martin, had within my grasp the most terrible weapon that human imagination could conceive. I was in truth, the master of time and destiny. Armies, cities, air fleets, battleships would turn to dust before the projection of the screen. No power could withstand me. All that remained to be done to realize a world dictatorship was to construct a projector generator large enough to screen several hundred miles of territory. It was then that I—"

"It was then that you called on my father and Adam Holt," Vingie interrupted tautly. "You believed they would be able to build that generator. You thought you could force them to assist you in realizing your tyrannical

dream. You—"

"Very logical, madam," Martin's plunge from dream heights left him the personification of a sneer. "That is near enough to the truth for the present. Now that your husband can supply air transports for shipment of the needed materials, I can command the Midwest Laboratories to fill my orders." He turned to Ron. "I think you can see now, Sherman, that whatever your sentiments as regards my plans, you can do nothing better for yourself than serve me unstintedly. A usurper of world power can offer rewards that the gods would envy. What do you say? Is it truce or force?"

Ron's jaws were granite gray as he answered: "I never realized before how patriotic I was, Martin. No man but a cruel and selfish devil would prostitute his powers to such an end. Sherman Aircraft will play no part in your schemes, and I think my wife is with me."

Ron had been prepared for almost any recalcitrance to his scornful rejection of Eli Martin's terms. But the enigmatic dreamer of world conquest seemed in no hurry. He turned suddenly and strode over to a small electric cooker under a built-in cupboard.

"Maybe a little material food will soften your martyric sentiments," Martin chuckled, as he drew out a folding table, and began efficiently setting out dinner for three. "While I'm serving you might do all of us a favor by taking a look through those eyepieces in that black box near the window. It's a periscope. By turning the knob on the side you get a telescopic panorama of the grounds. If you see anything that looks like a Jap let me know. I'd like to fertilize the cosmos with Osaka and his apes. I hardly think I'll be lucky enough to get Bordoni." He added the last softly.

Ron went over to the periscope. It was easy to operate and afforded a remarkably inclusive view of the fields and gardens surrounding the hacienda. Slowly he turned the mirrored lenses somewhere on the roof above. The sun was setting out there in a world of freedom that seemed very far away and unattainable. On the second turn his fingers stiffened on the rotator. A dark, skeletal silhouette had risen against the molten glare of sunset. The scarecrow head and torso of a man stood out above a chaparral hedge. With a tingling thrill Ron recognized the forlorn, yet somehow sinister figure. Elijah of the blasted grove! The man Martin had referred to as Tombstone Danny.

"See anything?" Martin asked.

Ron turned the rotator again slowly, called over his shoulder blandly: "Not a living thing."

When he turned back to the spot where he had seen the old man watching the house, the figure was gone. He couldn't believe that human wreck could be of any help to him and Vingie. Yet he had no desire to see that pitiable old ruin swept into eternity by the time screen. And by this time he was certain that Martin intended to dispose of "Tombstone Danny."

Martin sat down to the spread he had set out expertly. He waved them to chairs, helped himself. Ron and Vingie discovered a healthy appetite that defied their growing despair. They ate silently, faced by a mockingly expansive host, who presided with the eye of millennial doom perched on his lap.

"All mankind's tomorrows belong to me," Martin talked as he ate. "I'm in no hurry to use them. I have sufficient provisions to last me several months if I must be isolated that long. There will be no mistakes. One battle—one war must decide the issue in my favor. It will be the greatest epoch

in history—probably the last epoch."

"But I understood that Eli Martin was a humanitarian," Vingie murmured.

"Eli Martin *was* a philanthropic fool," their host laughed brutally. "Ambitions change when the god of power goes berserk. However, according to my views, Earth will be the only ideal paradise for mankind when my work is done. You know, my friends, all great civilizations of the past have been destroyed by the invasion of barbarians when progress had grown overripe. I've often wondered where the barbarians would come from to purge our modern rottenness. I might have known the purge would come through science itself. Now I am the instrument of destiny. One man shall play the role of the Hun."

"And after you die?" Ron queried.

"If the reversal process of the time screen can be perfected as I believe it can, I will never die. And those who serve me faithfully now will live forever—like gods who stay the hand of man from the dead sea fruit of knowledge."

Ron hitched his chair around from the table. "Turn on the heat any time," he growled. "I'm ready."

Vingie did not seem to notice Ron's action. She was coolly mistress of her emotions as she said: "May I see your plans for the giant generator? I'm interested."

CHAPTER III

Pawns of Destiny

ELI MARTIN did not seem surprised by Vingie Sherman's apparent surrender. He got up quickly from the remains of the meal, stepped over to the periscope for an observation that was evidently satisfactory, then beckoned them to a drafting desk near the

row of lockers at the far end of the lab. Again he faced them across the table top, the time screen menacingly focused.

"Here are the plans," he said, shifting a sheet of drafting paper from a heap of other designs. "And here is the list of materials required. The Midwest Laboratories is one of the few sources for such quantities of rare metals." He glanced at Vingie. "In case your father may have been killed by these spies, no doubt you can order the materials as his heiress. And of course you can prevail your husband's foolish scruples as to providing transportation."

Ron was staring grimly at the wall, trying not to listen. Vingie's eyes were glued to the blueprints in widening fascination.

"But even after the giant projector is installed," she was speaking almost breathlessly—"what is to prevent our dying of starvation here—cut off from all the world?"

Martin laughed. "As soon as the installation is complete I will project to maximum, destroying everything within a radius of approximately six hundred miles. After that crushing blow I'll radio an ultimatum to the world. Undoubtedly, combined armaments will be promptly concentrated on the screened zone. Before they realize their impotence, I'll dissolve their fighting equipment to mist. After that, I anticipate unconditional surrender.

My demands will bring the wealth of the world in caravans to this base of operations, through lanes freed of the screen. I'll call in my brothers of the faith, equip them with portable screens. We will flash the minimum, paralyzing projection on whatever helpers we need, making practically living robots of them. In a short time this isolated ranch will become a walled city, a vast

oasis of every so-called comfort necessary to the reason-diseased mind. We will expand operations, build other walled cities, and the generations of savages born of the remnants of the race we permit to live will look upon us as gods."

"It is too terrible," Vingie spoke as one awakening from a dream. Something in her voice, the fearless challenge of her gaze, brought a scowl of threat to Eli Martin's ego-flaming face.

"You—have changed your mind?" he sneered.

"No," said Vingie. "I haven't changed my mind. At last I'm ready to speak it. I may die with my husband as the first to fall to your egotistical whims—but it will be easier now that I know certainly that you are not the man who really invented the time screen."

She pointed to the desk and scattered papers. "The plans of the giant generator are yours—but the other papers are the work of the real Eli Martin. His initials are on some of them. You are—Mandel Bordoni!"

"Madam," the green-brown eyes were glowing with mock admiration—"you are splendid! I can use you in my little world—my ivory tower in the wilderness. What a consort you'll make for the Emperor of Earth!"

Vingie's slim shoulders squared. "You will have no use for me," her voice quivered. "I wanted to be sure who you were before I spoke my mind. You posed as Eli Martin because you thought you could get our willing aid to your diabolic plans. You knew Martin wasn't well-known, that we couldn't recognize you. And the reversed time screen could account for your younger appearance. You have killed or imprisoned the real Eli Martin, and I think you know exactly what has happened to my father and Adam Holt!"

Ron had gathered himself for a desperate break. With a sudden heave he tipped the table into that sneering, egomaniacal face. He lunged to the right; Vingie swerved to the left, to dodge in and get their master from that side. It was one mad chance to elude the deadly force of the time screen, get the man behind it before he could bring the thing into play. One clutching hand Ron thrust toward a braced leg, then a stunning shock stopped him. He saw Vingie reel and fall, moaning, as he strove to command himself and failed.

"Yes—I'm Bordoni!" the man behind the table leaped out agilely over Vingie's twisting form. "And that was just a minimum flash I gave you of the deadliest weapon in the universe. You can get up all right—to serve me, not yourselves. You will come out of it in a few hours, then I'll flash you again. You are slaves of the screen, pawns of my destiny. I hoped to delude you until the giant generator was constructed. But slaves will have to serve the purpose, weaklings though you are!"

Ron and Vingie tottered to their feet, faces drawn, pinched and gray. Their hands quivered as with palsy of great age. Each movement was slow and feeble. Living robots, Bordoni had said—with small resistance to the master mind.

Bordoni stepped to the lockers, flung open a steel door. A grizzled head and stocky figure reeled weakly out of the locker.

"Father!" Vingie's lips formed the word thickly.

Mortimer Rand's lips were closed with an adhesive gag, hands and feet bound with tape. He struggled to his knees, suffering eyes meeting Vingie's in mute agony.

Bordoni laughed like a rampant Satan as he stepped to a second locker door, wrenched it open. A thin,

stooped, gray-haired form, gagged and bound, slid to its knees, tumbled out to the laboratory floor.

"Behold!" Bordoni cried—"the real Eli Martin! The philanthropic fool who believed he could end all war by furnishing each and every nation with the plans and specifications of the time screen. Yes, he has been telling me a good deal about his invention. He'll tell more. You'll all serve your separate purposes as slaves of the screen—and then—"

He swung on Mortimer Rand, seized a dissecting knife from a table, slashed the scientist's bonds.

"Now, Rand, let's see if you are so stubborn about signing those orders for material. I've already given you a minimum flash. But it won't be nice to see your daughter turned into a shriveled old hag in a few seconds."

He turned to Ron. "You, Sherman, will command your air transports to my will for the same reason—to save your wife from the horror of a brief living death."

Bordoni seized the overturned table, righted it. Rand and Ron made no resistance as they were shoved into the chairs like feeble children. Bordoni whirled to Vingie, flung her against the wall, faced her with screen focused. . . . "Write!" he cried. "Write—or watch her live a hundred years in ten seconds!"

"Don't—" Vingie's gray lips faintly formed the word. But Bordoni was chuckling his glee as he heard the rustle of fountain pens writing *finis* to the works of the world.

Ron was last to finish his share of Vingie's ransom. He slumped back in his chair with dull eyes. Bordoni inspected the orders with satisfaction. Ron tried futilely to clench a fist, drive it up into Bordoni's face. The mere effort of will left him weak as a new-

born infant.

Sweat was streaming from Mortimer Rand's lacklustre face. His lips quivered with speech that came slowly, haltingly:

"You will never succeed, Bordoni. You will only destroy yourself."

"My pilots will suspect," Ron seconded, laboredly. "You'll be bombed long before the giant generator can be built."

"Nonsense!" Bordoni scoffed. "Who could suspect the miracle of the time screen? I'm more afraid of Osaka and his apes. But I'll get them all before long."

He sealed the orders, addressed them, turned to Ron:

"Tomorrow, after you have recovered somewhat from the effects of the minimum flash, you will get your private pilot by telephone, command him to land here on the level desert south of the ranch. We'll meet him with these letters. To avert suspicion you'll introduce me as Eli Martin. Meanwhile—" he jerked around to face Eli Martin, whose big, sensitive eyes stared up from the floor as if in mute prayer—"meanwhile, Martin, I'll force you to finish your plans for the reversal process of the time screen."

Eli Martin's head rolled slowly to and fro in a weary negative.

"Tomorrow—"

A sudden sound at the window brought Bordoni around to face a drawn shade, his words clipped off in his throat. It was as if someone had thrown a handful of gravel at the outer glass. The time screen was focused on the window as Bordoni crept forward. Then, eerily wild and high, came a querulous, prophetic wail from without:

"There's n-no tomorrow!"

With a smothered curse Bordoni flashed the screen. The window shade

fell in curling tatters of dry rot. The walls around the window crumbled to dust that pattered to the floor. Ron groaned as it seemed that no living thing outside could escape. The window crumpled outward, bars and all, glass smashing in a shower. Through a gaping rent in the wall where the window had been Bordoni leaped, the pale green fan of the screen streaming ahead of him into the desert night.

"It was Tombstone Danny!" Ron's laboring throat achieved a hopeful cry.

Mortimer Rand mopped his sweating face with a shaking hand. "There is no Tombstone Danny, Ron," he said, hoarsely. "That was all that is left of Adam Holt."

"Adam Holt!" Ron stared.

Rand shuddered, spoke haltingly: "The time screen ages without wear and tear on the system. Without the stresses and strains of normal aging, a man can live two hundred years or more. Bordoni was in control before we arrived. He flashed me and tried to screen Adam to death, but Adam got away in time. Bordoni's been trying to finish him ever since. But Adam's too smart—smart like the insane. One idea—a fixation."

"Listen!" Ron struggled up, fighting the dragging paralysis of the screen.

Some one was at the patio entrance to the lab, some one trying to pick the lock with frantic haste. Bordoni was still outside in pursuit of the wailing prophet of doom. Whoever was at that door knew that Bordoni had gone out.

"It must be Osaka," Mortimer Rand's voice faltered. "Let him in. Better the Japs than Bordoni."

Ron started to leap to the door, but his numb legs failed him. He toppled forward, stunned as his wooden arms failed to break his fall. Slowly he dragged himself to the door, turned the key shakily. Dimly, he was aware that

the noise at the lock had ceased. He heard an angry shout, a scream of death agony, as the door came open. Then he slumped down in the doorway, staring out into the starlit patio upon a tableau of fury.

CHAPTER IV

Fury Loosed

THE light from the laboratory door spread a fan of radiance over three knotted figures. Bordoni, caught from behind by two burly Japanese in laborer's coveralls. Frantically, they were holding him, pinning his arms to keep his hands from the screen, that rayed its poison pall across the driveway. And something else Ron saw—part of a man—the upper part of a man on a twisted husk of naked legs and abdomen. Bordoni had screened that one before the others caught him from behind.

"Hold him!" Ron cried, hoarsely. "Don't let him turn that thing this way."

Vingie's weak call from the lab turned Ron from the door.

"Osaka's got him," he gasped as he reeled back into the room. "But if that screen ever turns this way—"

Eli Martin was writhing up, his expressive eyes almost speaking aloud. Ron cursed the stupefying shock of the screen as he realized what Martin wanted—to be cut loose, un gagged. He took the knife Bordoni had used to free Rand. Vingie was holding it out to him feebly.

Ron was fighting off the effects of the screen better than the others. He got the knife in both hands, sawed the tape that bound Eli Martin. The old man stripped the adhesive from his lips as he pulled himself up.

"We must get away—quickly—" Eli Martin's voice was shrill with anxiety. "Even if Osaka gets the screen he'll kill

us. We are witnesses to his acts. I am weak—Bordoni screened me yesterday, but I've recovered a little. Oh, my poor unfortunate friends — what have I done?" He moaned and pressed his head with clenching hands.

"We can get out the same way Bordoni did, through that gap in the wall he made. They're in the patio. They won't see us leave," Ron cried.

"Yes!" Martin was rallying desperately. "That is the way—follow me. There's a flood lock channel just west of the rock garden. It will give us cover—hurry!"

Ron groaned as he pushed Vingie ahead of him, saw her father totter through the ragged gap in the wall where the window had been.

Vingie's leaden legs would scarcely carry her. Twice she fell and Ron struggled to help her up. Then they saw Eli Martin drop from sight just ahead, Rand falling after him. The flood-lock channel! Already, the old inventor was crawling along the dry bottom of the irrigating trench.

"Don't show so much as your heads!" Martin pleaded. "If they suspect where we are they'll project this way."

"But we can't let them have that thing," Ron whispered. "It means death to millions—the last war."

"In our condition it is madness to try," Martin's voice was breaking. "If we live we may notify the war department in time. God, what was I thinking of to loose this hell upon my fellow men?"

They had reached the driveway, were turning sharply into a deeper channel. Ron thought of Lot's wife as he turned back, looked over the floodlock gates at the turn of the trench. In vain, Martin whispered for him to come on.

"They can't see me," he husked. "And I might be able to do something."

He could see into the patio. The light from the laboratory door still rayed across that arena of death. Bordoni was down to his knees. The time screen had been cut loose from his shoulders. It sat like a witch's jack-o'-lantern a few feet from the two who still fought for possession of it. Another of the Japs had fallen, half withered where Bordoni had winged him somehow in his struggles to focus the screen.

Ron thought wildly of making a break for the screen, getting it away from both of them. But he knew he could never do it in his stunned condition.

He felt Vingie tugging at him. He started to turn away, when something arrested him. A shadowy form was stealing out of the dense gloom under the trees opposite the patio. It moved jerkily, yet with uncanny stealth. It was following the edge of that greenish glow of destruction raying from the motionless time screen. Then the light from the laboratory etched the figure in a ghostly halo. Adam Holt! The mad prophet of the grove was stealing in behind the time screen.

Ron's hand crushed on Vingie's with a painless strength. Unformed words gurgled in his throat. Nearer, nearer, Adam Holt was stealing toward the rear of the glowing projector.

The Jap broke suddenly from Bordoni, leaped toward the screen. But Bordoni had him again in a lunging tackle for the legs. . . . Adam Holt tottered on like a corpse from the grave. He crouched lower, darted in. He had the screen!

A wild, triumphant cry warned the two in the patio too late. Ron's flesh crawled as Adam Holt's wild scream rang in his ears:

"There's no tomorrow!"

Bordoni and the Jap broke, whirled

to meet their common foe. The leprous pall of the screen bathed them eerily. An instant they were men, then two shrinking, mummied dead tottered down. Two crackling thuds marked the fall of the mummies Adam Holt had made.

"Adam—Adam's got the screen!" Ron found voice. "He's turning both of them to dust."

But Eli Martin's knotty hands were hauling at Ron's shoulders desperately, pulling him away from the ghastly scene. . . . "Adam is mad, stark mad," Martin was weeping. "He'll destroy us all and himself, too. In the name of God, come away with us, while there is a breath of life to help us on."

Ron tore himself away, crawled on. They heard the throaty rumble of a falling wall behind; the screen reducing the hacienda to primordial dusts. They saw the pale flicker of projection wheel across the sky as mad Adam changed the focus. Then they reached the end of the irrigating trench, staggered out into a pasture.

"Run if you can!" Eli Martin panted. "The maximum range of the portable is two thousand yards. It's at short range now. If he doesn't find out how to adjust for maximum range we have a chance. For his own sake, I hope he destroys himself or the screen."

Falling, crawling, they crossed the pasture, rolled under a fence, into a grove of citrus. Behind, they could hear shrill shrieks of insane delight growing fainter. A musty, ashy stench gnawed at their nostrils. Far overhead, a trembling radiance flickered, passed on, as they instinctively ducked their heads.

"That was maximum expulsion," Eli Martin groaned. "God help us—we can't do a thing to save ourselves if he chances to sweep us before we are out of range."

Ron looked back. Pearly clouds of vaporous dust were rising over the spot where Adam Holt danced his macabre victory dance. Choking odors of decay stole around them as they staggered on through the grove.

"The bluff where the road comes in," Eli Martin gasped. "If we can make it we'll be safe—out of range—unless he follows us."

"He'll think he got us in the laboratory," Ron said.

The stars had dimmed and vanished under the cosmic ash that drifted up from the screen as Adam Holt played it with deadly thoroughness over the ranch. Only Eli Martin seemed to know by instinct the way to the bluff. Now and then, the wavering pallor of the screen deatomized a briefly clear rent in the canopy of ash. Yet luck seemed with them, for Adam seemed concentrating his attack on the ranch itself thus far.

At last the bluff, and clearer air as they climbed with the last gasps of waning energy.

"We are safe here if he doesn't come this way," Eli Martin said as they flung themselves down exhausted at the top. "We must rest and keep watch. If the beam moves nearer, we can go on. To-morrow—if there is a to-morrow—we must find a way to stop Adam, if he still lives."

Ron was strongest of the screen's slaves. He kept first watch from the rimrock. Towers of dust rose in tier on tier against the stars. Adam Holt was building himself a tower of awful splendor—the splendor of infinite ruin.

An hour—two hours, Ron watched while the others slept in exhaustion. The beam never came nearer their place of refuge. Gradually its gyrations faltered, grew intermittent, and then the beam stopped moving. . . .

In the gray of dawn they stood on

rimrock, looking down into a lake of pearly mist where the ranch had been.

"The screen is still projecting," Martin said, wearily. "But the focus is in the ground. Adam Holt must surely be dead. As soon as the air clears a little we'll go down."

"How did it all happen?" Ron asked as Vingie pressed nearer in the shelter of his arms.

"Bordoni surprised me a few days before Rand and Holt were due to arrive for our conference," Eli Martin spoke gropingly. "I had been prepared for trouble of that sort, but did not expect it so soon. I wanted to arrange through Midwest Laboratories to present simultaneously to all nations the plans of the Martin time screen. I believed war would be unthinkable after that. Now I am afraid I was mistaken. . . . Bordoni locked me in the main laboratory, took possession of the portable screen. He told me his plans. I realized that I was the only man in the world who could save civilization. I hit on a desperate plan. I had theories of a reversal of the time screen, which Bordoni correctly outlined to you and your wife, Mr. Sherman. However, Bordoni did not know that I had concluded the reversal process was impossible. I led him on to believe I hadn't perfected it yet.

"Then Rand and Holt came. Bordoni needed Rand to order the materials for the giant generator. He did not need Adam Holt. He screened Adam, thought he had killed him, but Adam found the strength to crawl away and hide. Naturally, he was a senile idiot—and he had a hate-fixation concerning the apparatus that had made him what he was. I cannot blame him."

"And that weird battle cry of his," Ron shuddered "—where did he get it?"

Eli Martin smiled wanly. "Bordoni himself was responsible. It was what

he said when he screened Adam. Adam said something about what they could do about it 'tomorrow.' Bordoni snarled, 'There's no tomorrow for you, old man!' Apparently that was all Adam could remember when he came to—or so he led us to believe in his insane obsession for revenge."

A little later they climbed down the bluff, fairly recovered from the numbing effects of the screen. Through the fog of vaporous smoke that hung over the valley, they approached the screen, whose area and direction of projection was plainly indicated by the towers of airy dust. Here and there a few adobe bricks still retained form and consistency, yet no casual observer would have believed that human habitation could have stood there since the age of the cliff dwellers. Eli Martin's fertile fields had reverted to desert sands.

At the apex of the geysering mist, they found the body of Adam Holt, dead of overexertion at an incredible age, they could not doubt. Eli Martin switched off the screen, before which a

gaping hole had formed, with tons of fine sand trembling on the verge of avalanche. The inventor's skilled fingers worked at the mechanism a moment, partly dismantling it. Suddenly, he lifted the projector, threw it into the hole it had formed during the night. A swish and rumble followed as the edges of the chasm collapsed.

Eli Martin did not speak for a time. He stood with gray head bared as one mourning at the grave. . . . "I could build again, but I will not," he finally said. "Dust unto dust—it was the work of the devil." He turned to them commandingly, like a prophet of old. . . . "Adam Holt died of thirst, lost on a prospecting venture. My ranch was destroyed by a frightful explosion of chemicals during my absence. The time screen never existed—never will exist. Swear it—all of you—and I swear that the secret of it shall die with me."

Solemnly they raised right hands, chorused, "I swear!"

THE END

Coming Next Month

THE AMAZING STORY OF A SCIENTIFIC "GHOST"

Dr. John Hale was a scientific detective, but never before had he been called upon to track down a mystery as uncanny as this one turned out to be!

IN THE DECEMBER ISSUE OF AMAZING STORIES



WARNING TO CRANKS

If you want to stay cranky, look out for Star Single-edge Blades! They're so keen, they're so gentle with a tender skin that if you're not careful, you'll be smiling all over. Famous since 1880! Star Blades cost little: 4 for 10¢. Star Blade Division, Brooklyn, N. Y.



STAR SINGLE-EDGE BLADES 4 FOR 10¢
FOR GEM AND EVER-READY RAZORS

RIDDLES OF SCIENCE

HOW DID LIFE COME TO EARTH?

LONG BEFORE LIFE CAME TO THIS PLANET, IT WAS A SPINNING BALL OF INCANDESCENT GAS, TORN FROM THE SUN BY A NEAR COLLISION WITH ANOTHER SUN. THAT LIFE SPORES COULD EXIST IN THAT HEATED MASS WAS IMPOSSIBLE, AND WHEN THE PLANET HAD COOLED, HOW DID LIFE BEGIN?



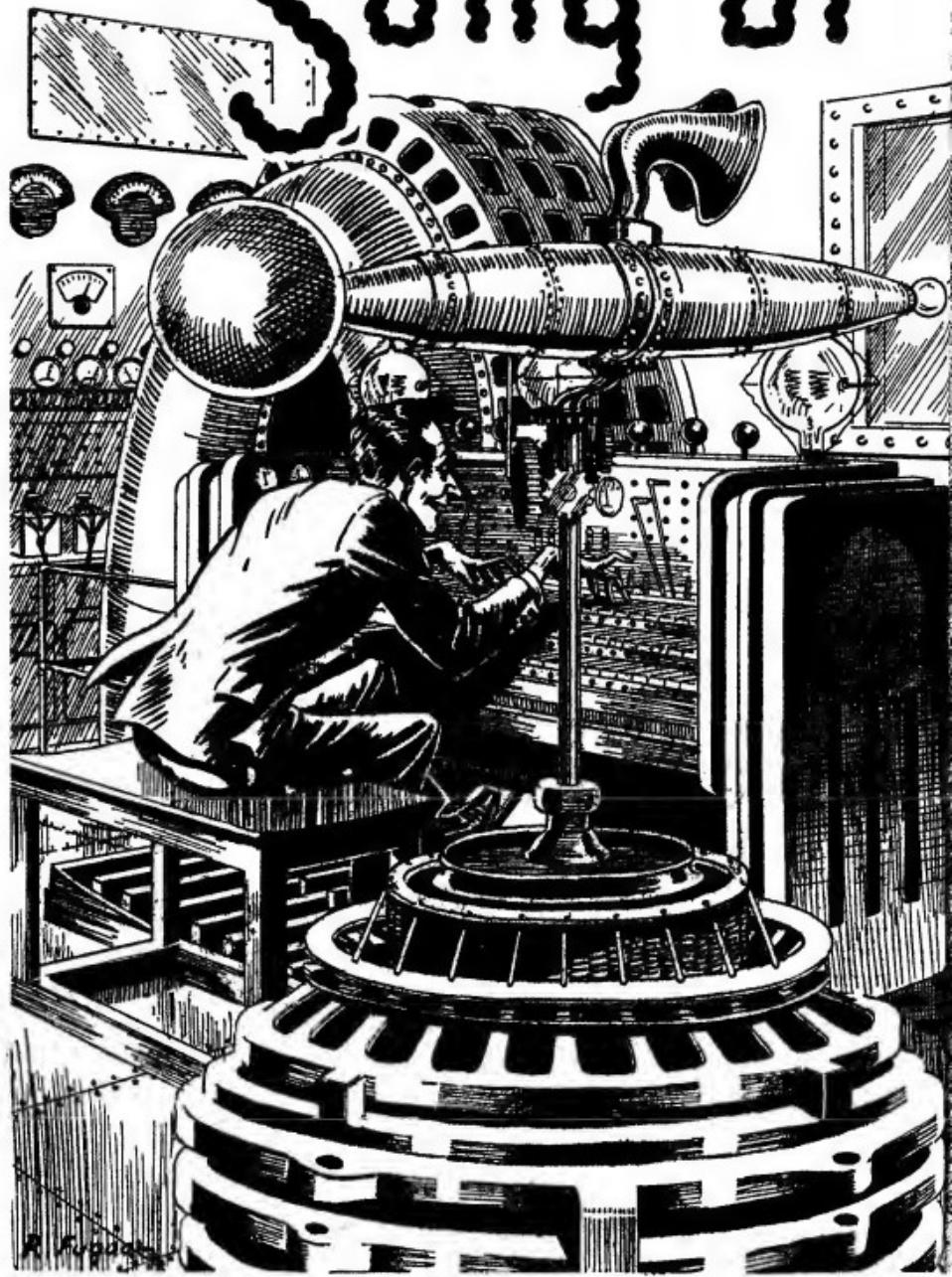
DID IT SPAWN IN THE DEPTHS
OF SPACE, THROUGH SOME
UNKNOWN COMBINATION
OF ENERGY AND MATTER?

DID SOME FORTUNATE COMBINATION OF CHEMICALS IN THE ANCIENT SEAS THAT FIRST COVERED THE COOLING PLANET REACT TO THE SURGE OF COSMIC RAYS AND BECOME SENTIENT?

OR DID LIFE COME TO EARTH FROM ANOTHER WORLD, PERHAPS BY SOME INTELLIGENT MEANS, BY SOME MYSTERIOUS ABILITY TO CROSS THE VOID OF SPACE?

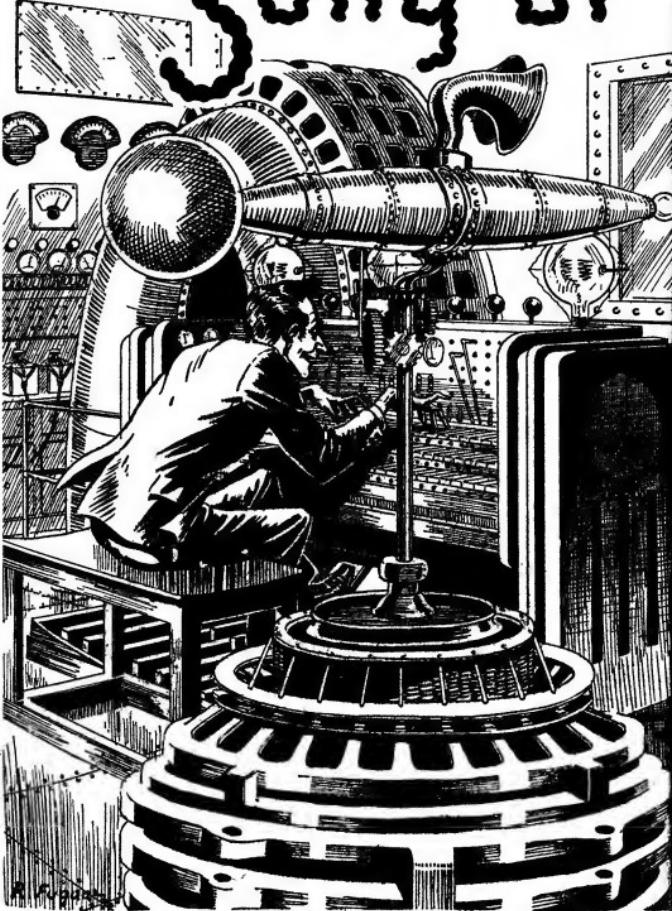


Song of



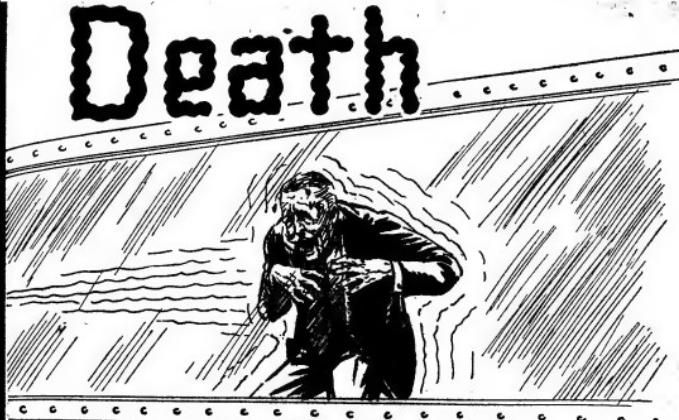
Now rollicking mirth swelled from the organ in forceful tones

Song of



Now colliding mirth swelled from the organ in forceful tones

Death



By
ED EARL REPP

An amazing death came to the rats when Vance turned the supersonic cannon on them. But the real test came when he used the vibrations on a greater scale—to torture and murder a man

CHAPTER I
Time for Murder

IT never occurred to Vance, until the morning when Dyson's car rolled up before the house, that there might be a practical use of the thing he had discovered. But as he stood there in the second story window looking down onto the graveled horse-shoe drive, the plan hit him with such force that he trembled visibly. His face became alive with an intensity that made his sallow skin grow tight over his cheek-bones,

A practical use—there was the test of every laboratory achievement, to de-

termine whether or not it was a worthwhile one. He had thought this one just a freak of acoustical science. He had toyed with it in the laboratory until he knew it had great possibilities as a show-trick, but such a use as the one that now occurred to him had been undreamed-of. But there is always a useful purpose for any new discovery, he had found, however impractical it may seem.

And the purpose to which Vance was going to put his discovery was murder.

He turned, now, and left his bedroom. His face was still sleep-wrinkled and his hair tousled, though it was ten o'clock. He hurried down the hall, descended the stairs, and went to open the front door. Dyson stood there, framed blockily in the portal, when he opened it. His face was sullen and contemptuous, and his clipped gray moustache seemed to bristle with distaste. Dyson's skin was healthy-looking and firm, and his eyes, though he was over sixty, were as clear and sharp as those of a much younger man.

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Vance put a smile on his lips as he invited, "Come on in. It's good to see you, Father."

"Don't 'Father' me," Dyson clipped. "Just remember Ellen's dead, now. I'm no longer any kin of yours, in-law or otherwise."

Vance moistened his lips. Within one second of their meeting for the first time in a year, the old trouble had risen again and left them both standing tense and angry. They stood for a second glaring at each other. Then Vance raised his shoulders and let them fall. "As you like," he said. "But don't forget that I've suffered too. I loved Ellen. Her death was as much a shock to me as it was to you."

Dyson's fine lips lifted in a sneer. "I'd smash your yellow face in for that," he breathed. "But I don't even want to soil my hands with you. You loved Ellen, did you? You loved her so much you broke her heart and sent her back to me after two hellish years with you! Two years! I wonder how any woman could stand two days!"

A cold rage built up in Vance's thin body. His skinny fists clenched as he faced the older man, and then he turned and muttered, "Let's sit down, anyway. No use digging up old grievances."

But as he led the way to the library he would have liked to have turned on Dyson and beaten the life out of him. Only he knew he couldn't. His father-in-law was an ex-military man, and certain life-long habits, such as physical fitness—he had carried into private life when he retired. He knew that Dyson, with all his sixty-three years, could whale the daylights out of him, though he was scarcely thirty. But then he remembered the way those rats had died up in his laboratory—without a sign on their bodies—and he smiled thinly.

He knew that his father-in-law had

never liked him, any more than he had cared for him. He remembered, too, the ill grace with which he had given his daughter to him in marriage four years ago. Well, maybe it had been a mistake at that.

Though, for the first few months after they were married, Vance and his wife had got along very happily. But after that a hundred little things had arisen between them that gradually turned Vance's love to hate, though Ellen still followed him around with a dog-like devotion that disgusted the scientist. She was one of those persons who are disgustingly cheerful in the morning, whereas Vance was never ready to wipe the scowl off his face before ten o'clock. Then, too, she carried the "married-lover" business to an extreme; every time he had to go down town for a few hours, she had to kiss him good-bye as though he were leaving for a year. God knows, there were many times when he wished he were!

In the first place, Vance reminded himself, he had only married her as a matter of convenience anyway. He needed money to carry on his laboratory work in physics, and the idea of teaching in a university to get money for his experiments was distasteful to him. So, when he met the pretty young daughter of wealthy Henry Dyson, he got the idea of marrying her and letting her allowance support him in luxury.

A pang of regret gripped him as he offered Dyson a seat in the library. For the first time he wished he had put up with Ellen and not made life such a hell for her that she went back to her father. Because now, with her dead from an automobile accident, her father was going to throw him out. . . .

Only the girl's intervention, for a love that she still had not lost, had made Dyson allow him to stay on here, with an allowance of a hundred a

month. With Ellen dead, that intervention no longer mattered.

Dyson's low voice brought him out of his remorseful thoughts. "I only wish I were about ten years older," he was saying. "If I were, I'd kill you the way I would step on an ant. At that age, I wouldn't care so much about being hung for it. God knows you deserve killing if anyone ever did!"

Vance bristled, "You're going a little too far when you say that. After all, the worst you can say of me was that I told her I didn't love her any more. And women don't die of broken hearts these days."

"No," Dyson agreed, shaking his head slowly. "They don't die of broken hearts—but sometimes they kill themselves over scoundrels like you!"

"Kill themselves!" Vance gasped. He felt a cold feeling in his stomach. They'd told him Ellen died in an automobile accident.

"Yes. That accident could have been avoided. There wasn't a trace of skid marks on the road where her car went off the cliff. Ellen deliberately drove over the edge." Dyson's brown eyes burned into the other man's.

The scientist went rigid. His nature was shocked to its very bottom by the terrible news, for he could not escape the thought that it was he who had caused Ellen to kill herself.

Dyson went on grimly, "That's why I came here this morning, to tell you that. Perhaps you have human feelings enough to realize what kind of a thing you've done." He stood up and reached for his hat. "There's another reason I came here, Vance," he went on with obvious relish of his position. "I came to tell you to be out in two weeks. This is my property, and my house. If you aren't out in two weeks I'll come in and break every damned piece of equipment you've got here."

Vance was shocked out of his horror. He had expected the blow, but not to be thrown out so quickly. "Two weeks!" he echoed, running his bony fingers through his hair. "Why—it'll take me a couple of months to pack everything and move out."

Dyson shrugged. "That's your problem," he said.

A crafty look flitted over the scientist's lips. "You'll be hurting more than just me if you enforce that threat," he warned Dyson. "I've made a discovery this week that can restore normal hearing to thousands of deaf persons. My work in acoustics, which you have always laughed at, is becoming practical now—practical enough for a businessman like yourself to appreciate. But if you make me move out that quickly, many of my things will be ruined. It takes time to pack delicate instruments such as I use. Give me—a month, at least."

Dyson regarded him calculatingly. He seemed to be weighing his words. Finally he replied, "All right—one month from today I'll expect you out. I don't for one minute think you've got anything that can help humanity, but even a man like you might stumble onto something sometimes. Just on the off chance that you have, I'll give in. If you can really do what you say, my sacrifice will have been worthwhile."

Vance smiled his thanks—a smile that they both knew was forced. He was thinking how gullible Dyson was, for his invention was scarcely what he had represented it to be. With it, he could very easily deafen a person, even kill rats in the fraction of a second—but as for restoring hearing to anyone, that was sales talk.

He was still smiling when his father-in-law turned and left the room. With an attempt at hostly cordiality, he followed him to the vestibule, bade him

good-bye, and closed the door behind him. Then, in a flash, his face darkened and an almost animal-like snarl escaped his lips. He shook as with ague. Then he got control of himself by an effort and turned hastily to the stairs.

CHAPTER II

The Super-Sonic Machine

IT was like entering the cool sanctuary of a cathedral for him to go into the laboratory on the second floor. These were the only friends he owned, these shining articles of scientific equipment, these guinea pigs and rats on which he experimented. These—and his music—were his life. All of Vance's waking moments were spent in the laboratory or at the console of the electric organ in the small room off his study. And the organ itself was very closely allied with his work.

He rubbed his hands as he glanced over the display. In the center of the long room was his sound projector, a gleaming, cigar-shaped affair mounted almost like a cannon. Beside it, in a shallow pit in the floor, was a battery of electric power equipment guarded by a brass rail. Off to his right, at the other end of the room, was the target at which he aimed the sound waves of his experiments. It consisted of a small barrel thickly lined with glass-fiber insulation. Around the walls, and in little islands about the floor, were other groups of scientific paraphernalia.

A look of triumph mingled with hate flitted across Vance's sallow features as he recalled the way that rat had died in the target-barrel the other day. One shot from the high-powered sound "cannon" and it writhed for a second and then died. He had been stupefied for a while at the results. Then, on analyzing the animal's brain, he began to understand. And it was the unbelievable

condition of that dead rat's brain that had given him the idea of doing away with Dyson.

With his father-in-law dead, he would be rich. The only living relative of the old man, he was in line to receive everything, even if he had to sue to get it. Hence it was imperative that he do away with him immediately, before he could be put out and perhaps get word of the trouble into the papers. Things like that always looked bad in case a law-suit was necessary.

For a second a feeling of despair clutched at his heart. One month to build a lethal weapon out of a scientific toy! It was a task that would have defeated the average scientist at the outset. But Vance was far above the average scientist—in some ways—and he knew it could be done. He knew, too, that if he could perfect that discovery he had recently made, he could kill Dyson without leaving a scar, a bruise, a trace of poison, or any other indication of how it had been done.

Nothing but a peculiar condition of the brain, as in the case of the rat. For the animal had looked perfectly all right until he opened the skull, and there he found the secret of its death. The brain was almost as hard as clay! Instead of the customary jelly-like consistency, the little gray mass of protoplasm was hard and almost unyielding! *

It seemed only logical, therefore, that if the sound waves could be greatly magnified, a human brain could be similarly affected.

* Drs. Flosdorf and Chambers, of the University of Pennsylvania, and Professor Szent-Gyorgi, of Szeged University, in Hungary, have discovered that certain high tones, intensified greatly, can coagulate proteins, crack vegetable oils—even soft-boil eggs! It is their belief that these changes take place because of kinetic action of the molecules composing the substances, just as heat affects them in the same way and for the same reason.—Davis, Watson, *The Advance of Science*, pp. 147-8.

Suddenly he went into his workrooms and fell to work again. The belief that he was on the right track stimulated him to intense work, for the prize was indeed worth his labors.

Until midnight Vance did not leave the laboratory. He moved about it like some weird scientist of another world, calculating furiously for hours at a time, then leaping up to make some change in his sound cannon. The shadow from his long figure fell across the floor in a grotesque pattern.

By midnight he knew he was working on the wrong assumption. He stood wearily in the center of the big room clutching the sheaf of papers covered with his calculations in his hand, staring down at them with his head bowed. His tests had showed him far off the track. The theory he was basing his work on was that any tone, intensified sufficiently, could cause chemical changes in any body. He had doubled the intensity of his sound cannon. And even that was insufficient to kill a guinea pig!

He could kill a rat with half the power, but the guinea pig remained untouched. Obviously he was going in the wrong direction. For at this rate it would take a force sufficient to crumble a brick wall, in order to touch the human brain!

With a muttered oath, Vance shambled from the laboratory and went to bed.

Contrary to the usual practice of the scientist, he was out of bed at eight o'clock the next morning, and hard at work by eight-thirty.

Hoping that it might have been his machinery, and not his calculations, which were wrong, he took his sound projector apart and gave it a thorough overhauling. It was simple in construction though complex in operation. It appeared exactly like a cigar with a

large marble affixed to the rear end, and pivoted through the middle on an axis. The part of it where the axis passed through was open on the top, for the entrance of sound waves. These waves, of super-sonic, or inaudible, frequency, were projected down into it from an amplifier on the ceiling; then, as they passed into its interior, a powerful arrangement of electron multipliers and cathode tubes, augmented by a device of Vance's own invention for condensing the molecules of air in the super-sonic waves, met the sound waves with a terrific drive of power. The result caused the harmless stream of inaudible sounds to be hurled from the open end of the sound cannon in an almost solid bolt of sound.

When these projectiles struck a rat, the animal was instantly killed. But even a double charge of power was insufficient to kill a guinea pig. That was wrong, Vance knew. And yet when the machine was reassembled and tried once more, it still held true.

In despair he plunged into his calculations again and sought for some solution to the problem. No philanthropic scientist battling to give humanity a cure for some disease ever-labored any harder than did Vance, whose sole aim was to kill a man. He worked without eating until ten o'clock that night. His face grew more sallow than ever and became stubbled with a growth of blond beard. Finally, when his hands shook so that he could no longer write, he flung the papers to the floor and left the laboratory.

In despair he sought the consolation of music. He made his way wearily to his little conservatory off the study and flipped the switch that started the generators in the small electric organ. He sat down and adjusted the stops and draw-bars. Fatigue flowed through his body like an electric current, leaving

him almost limp from his long hours of labor.

His fingers touched lightly over the keys. Almost instantly the fatigue left him like a garment sliding from his shoulders. His playing became animated. The strains of a movement from Tschaikowsky's *Fifth Symphony* filled the room with sonorous power. Vance's long figure swayed gracefully at the console as though wafted this way and that by the force of the composition.

The song ended, and he drifted immediately into the sad measures of *Valse Triste*. The sweet, melancholy tones of the organ swelled and fell in slow cadences, swaying Vance's emotions with every changing mood. The avaricious mask that covered his finer features seemed to slide off as the beauty of the music touched his soul. For a moment his pale blue eyes were dark with passion that belied his character, covered by the husk of greed, and his lips were half parted in ecstasy as he gazed upward at the sound-window above him. His hands seemed acting without any directing impulses from his brain. Over the shining ivories they drifted gracefully, reaching now and then to adjust a stop or change the position of a draw-bar.

And then, as though a malignant force had seized him, Vance's thin body lurched from the seat. He stood erect,

trembling, the music dying with a burst of sound. Gone was the ecstatic, god-like expression of his face; in its place was a malicious visage that was sharp with cunning and cruel in its implication of danger. His lips gleamed with saliva.

"Why not?" Vance muttered to himself. "Why not!"

For his mind had not been idle while he sat at the console. It had been in an inactive state, resembling sleep, and yet as ready to register any stray thought that presented itself as a photographic plate is able to seize a nebulous ray of light in the very instant it is made manifest. And the very sweetness of the music had given him the answer to the problem before him....

While he sat half-dreaming at the organ, the scientist's keenly analytic mind had been considering, unconscious even to himself, a number of facts that seemed somehow to fall together. The failure of a mighty surge of power to affect a guinea pig—a stray sentence he had been impressed by in a work on acoustics—the effect of the music on his emotion.* Taken separately, the facts seemed disjointed. Considered together, his shrewd brain had acted as a catalyst to fuse the mass of facts into a homogeneous group of facts that led him definitely nearer the solution.

Eager to fix the facts in his mind be-

* The mystery of how certain musical compositions affect the emotions has never been solved. For that matter, the question of how we hear is still a mystery. The nerves in the ear are too sluggish to carry to the brain any musical tone higher than seven or eight hundred cycles. Dr. Troland of Harvard thought that nerves act in pairs or threes, taking turns at carrying the impulses to the brain. Yet investigation shows that over 2,800 cycles this theory is wrong, too.

The solution is obvious and easily apparent, when we consider that the ear is adapted only to the hearing of low-frequency sounds. Since the nerves of the ear-drum are incapable of carrying these tones—it must be *the brain itself* which picks them up!

We know that sounds which the ear is unable to register do reach the brain. The only way

they could do this, therefore, is to penetrate the skull as an X-ray penetrates bone, and to act directly on the cranial centers responsive to such tones. The reason for the strong effects of various types of music on the emotions is simply that the combinations of sounds in the compositions react together to produce sounds of super wave length, capable of penetrating to the brain.

It follows, therefore, that the rat was killed because the sounds used penetrated directly to its brain, the high and low tones being sufficient to coagulate it. The guinea pig was not affected because the frequency was not one that could reach the brain matter. Vance's problem, therefore, is to find a combination of sounds that will act on the emotions of my subject, strongly, and then to intensify the sounds until the brain has been destroyed!—Author.

fore he could lose the thread, he rushed upstairs, seized a pencil and a pad of paper, and commenced scribbling every thought that came into his head.

His notes made, Vance's fingers dropped the pencil and he stood up, paced back and forth through the laboratory. He stopped at the sound cannon and stared at it owlishly. Suddenly he swore and struck it with his foot. "Useless!" he muttered. "It must be completely done over. It's got to be stronger, bigger—more deadly. Then we'll see whether or not I am the fool Dyson takes me for!"

CHAPTER III

The Machine Completed

IT took two weeks for the scientist to decide exactly what must be done and then to do it. For three days he sat almost incessantly at the organ, playing every different type of music in existence. He analyzed the effects of martial music, of dreamy lullabies, of sad compositions, of humorous pieces. And from them he isolated the elements that gave them the power they had.

When at last the new apparatus was finished, Vance regarded it with rightful pride. It was twice as long as the former sound-focusing machine, for he had employed Poisson's theory that "if the wave of sound be confined in a tube with a smooth interior, it may be conveyed to great distances without sensible loss of intensity".* Thus, by projecting the sound waves from a smooth tube with great force, they were carried along for a time almost as though they were still confined within the pipe.

The cannon was now twelve feet long, a gleaming silver cylinder about a foot thick. The rear end of it was a sphere three feet thick, in which all the apparatus was carried. He had carried his small electric organ up to the labora-

tory and hooked it up with the projector, so that every conceivable sound he might require was at his finger-tips. The controls of the projector were even mounted on the upper end of the manuals, within easy reach.

Seated at the organ, he could command a wide view through the big windows fronting the street. From here he could see children returning home from school, laborers going to work, and off across the sloping valley the business district of the city.

Only one thing remained to be done—the machine must be tested before he could put it in operation. Just how to test it he was uncertain for a time. Then his eyes caught a flash of color on the street below, and he smiled bleakly as he realized the perfect chance for a test had come. Five school children were walking past the house, engaged in animated talk and kicking at rocks and anything else that presented itself. Hurriedly, Vance went to the organ and slid onto the seat.

His long fingers trembled a little as he flipped the generator switch and selected his tones. It was no matter of guesswork with him. He knew exactly which notes he needed to produce his effects.

Another switch caused the great cylinder to revolve slowly on its axis and then to point down at the boys on the sidewalk. A low humming arose as the ultra-powerful electron magnifiers and cathode tubes went into action.

Now he struck a chord, using only five tones. A weird, sonorous sound rolled from the sound cannon. The entire room seemed to tremble slightly as the lowest tone, a frequency of only eight vibrations per second, or half as many as are necessary for the human ear to detect, rolled its silent thunder through the atmosphere. To the boys on the street, the sound must have

* Tyndall, John, *Sound*.

seemed like nothing more destructive than a vacuum cleaner running somewhere and a truck rumbling by down the block. But suddenly it happened.

One second the five small boys had been talking and laughing in the good humor common to boys just let out of school, and the next they were like angry animals. With one accord they turned on each other and fell to pummelling with flying fists and screaming with insane rage. Two of them fell to the pavement and rolled, kicking and squirming, into the street. The other three formed a milling huddle of enraged, shrill voices and struggling bodies.

In the next moment the fighting stopped. The youngsters looked foolish, and then, abruptly, they broke into gales of laughter. Their boyish cries of merriment filled the street with sound—and yet there was no sound of genuine amusement in it. It was as though they were being forced to laugh by some power greater than they were. The laughter became shrill and forced, but the boys continued to scream their amusement until several were lying on the ground contorted with delighted gasps, clutching their sides.

The ray of intense sound had changed to a higher pitch. The low rumble had ceased. For Vance, sitting erect and stiff on the bench, had flicked two new stops and struck a new chord. His pale face was lighted up with intense enjoyment. The pale eyes burned with an unholy fire as he watched the proof of his success. He was playing on the helpless victims' emotions as he played on the organ. A mere flick of his finger would change them into savage animals again, seeking to tear each others' eyes out.

A queer breathlessness caught him as he realized that only a forward tipping of his foot, resting on the volume

pedal, would kill every one of them. He had struck the proper sound frequency to reach their brains directly, with no regard for tympanum or ear fluid. Now, if he increased the power to the terrific intensity required, their brains would be destroyed as the rat's was!

Elation filled him at that thought. Dyson's days were marked. His life was to be the price of trying to throw him out of his home. He was going to meet a death no mortal ever had—a death by music, but an unholy music that would make a fiend of him, or a Pan, and whose sweetest tones would be as deadly as the venom of a cobra.

With a sudden whim, Vance raised his hand and pressed in two draw-bars, then adjusted a third. He reached out and twisted the switch that operated the projector. The gleaming tube swung about to follow the boys. A movement of his foot, and the new sound-bolt struck the children. The laughter ceased. In its wake came a sound of soft sobbing.

The essence of sadness was being instilled in their brains. Tears of sorrow took the place of the tears of joy of a moment before. Small shoulders shook with racking sobs.

Finally, convinced of his success, Vance shut off the motors. A smile of derision touched his lips as he watched the boys awake. Shame-faced expressions came over their tear- and dirt-streaked countenances. Bewildered by something they could not understand, they shuffled off down the street in silence.

Vance turned away. He regarded the instrument-filled laboratory with complete satisfaction. Another week and the plan would be ready. For he was not quite prepared for Dyson yet. A few changes in the study downstairs, and then the organ would be ready to

play its song of Death, for an audience of one. . . .

CHAPTER IV

The Melody of Death

HE was alone, in the laboratory, when the doorbell rang a week later. Vance's whole body trembled with expectation. With an effort he controlled himself and hurried to let Dyson in.

His father-in-law had got his telegram, he decided. That, in itself, had been a master stroke. A curt note to the elderly man saying he had found a number of letters and things belonging to Ellen, and that he would destroy them unless called for by Friday, had turned the trick.

When he opened the door he was perfectly calm—outwardly, at least. He nodded curtly, "Come in. I see you got my wire."

Dyson's face was dark with fury as he reached forward and seized the scientist by the throat. "I got it, Vance," he breathed, "and I've come here to take those letters and then give you a beating you'll never get over. I knew you were worthless, but . . ."

"I'm warning you," Vance cut in huskily, striving to control his quivering underlip, "that unless you release me right now you'll never see the letters. Nor the picture she had taken just before she left me!"

The elderly militarist looked at the younger man as though he would crush him right then. His eyes pinched dangerously. Then he let his hand drop. The club was held by the weakling in this battle. "All right," he bit out. "Give them to me. Then get out and keep out of my sight, if you value your life."

Vance's heart leaped. The old fool was playing right in his hands! He

turned away quickly to hide the triumph in his eyes. "Wait in the study," he growled. "I'll be right down with them."

But scarcely had the door closed behind Dyson as he went into the small, walnut-panelled room than he sprang into action. He rushed down the hall to the room where the organ had been re-installed. He closed the door behind him softly and hurried to the switchboard across from him. His hand swung a bar-like switch down and there was a loud snap from somewhere in the wall.

Vance's lips were half parted in a smile. The man in the study was there for good. The turning of the switch had thrown bolts into every door, locking him securely. Now he drove a huge knife-switch home. A loud humming of electric motors filled the room. For a second, nothing happened.

In the next moment the wall between the study and the ante-room commenced to slide down through the floor. Between the two sections of panelling a thick glass shield remained. After a moment Dyson's startled figure was seen standing in the middle of the other room staring transfixedly at the vanishing wall. He jerked around as a sound grated behind him.

Vance had operated another motor that exposed the huge second cannon behind the organ. The long, silver snout of it moved forward toward the glass panel, turned toward Dyson slowly.

Quickly Vance dashed to the organ and seated himself. He could see Dyson's mouth shouting at him through the glass wall, but the words were inaudible because of mineral-wool insulation in the walls. His long, tapering fingers touched the controls.

After a moment he commenced playing. Dyson stopped his shouting and gesticulating. He looked startled as the

sounds came from the projector. The scientist's playing grew faster. He burst into a lively number of his own composition, full of breathless runs and cadences. The militarist could be seen to stiffen and throw his shoulders back. His fine face glowed with alertness and well-being. Suddenly he did an about-face.

"Now, march, damn you!" Vance shouted. "March, like the would-be soldier you are!" His fingers flashed over the keys in a stirring march over-toned by strange chords.

Dyson's figure was a pathetic sight as he marched back and forth down the room, the great sound cannon always following him like a vigilant eye. He looked like some old man playing soldier like a six-year-old boy. His erect, white head, thrown back, bobbed rhythmically. Up and down, back and forth, he led his imaginary battalions, shouting orders, executing weird maneuvers.

Vance laughed until the tears streamed down his face. Tired of it at last, he switched to a humorous composition. On the upper manual he set the keys needed to produce the tones that would irritate the nerve centers of Dyson's brain. Then, to the rollicking tune that swelled from the organ, the elder man commenced to laugh. He screamed with merriment. He slapped his knee and doubled over as the breath was goaded from his lungs like a depressed bellows. Finally he fell on the floor and lay there writhing in agony, but still shouting insane laughter.

But Vance did not let him die of strangulation, which would have occurred in a few more moments. He burst into a new piece. The room commenced to vibrate slightly from the power of the sound-waves driving out of the mouth of the cannon. Even the

organ bench shook a little as the floor was agitated.

Dyson felt the tones immediately. Anger distorted his face and pulled his mouth wide open into a savage snarl. Louder and louder the music grew, while he grew more and more insane with fury and raced back and forth, pounding the wall that separated him from his murderer, not knowing why he did it. All reason was blasted from his mind by the bolt of solid sound that pounded at him from the projector which followed him everywhere.

Vance's foot commenced to tilt the power pedal still further. The whole house was trembling now from the deep tones. They were inaudible, and yet the whole body seemed to hear them. Dyson's knees buckled and he went down on hands and knees, still raging, but growing weaker. His body shook as with ague.

Vance's fingers flashed over the keys in a wild song that filled the house with mad echoes, shaking the windows and rattling the doors. He threw his head back and laughed in defiance of Dyson's attempts to break through and kill him. All the joy of triumphing over this man who had challenged him was in his eyes, and all the greed in his soul was in his saliva-gleaming lips. He looked down to the manual for a moment, then glanced back to see what effect the change of chords he had just made would produce.

Suddenly a curse came from his lips. Dyson had staggered out of the sound beam and was showing signs of recovery. With a savage snarl Vance reached for the direction control and swung it hard over. At the same time his foot shoved the volume control farther open.

"My God!" A start of horror racked him. The sound cannon had not moved. The vibrations must have torn the wires loose that controlled that part of its

mechanism! Desperately he shoved the volume pedal wide open. The house shook violently. Abruptly, there was a shrill screech of collapsing metal.

Too late Vance saw what he had done. The tremendous force of the sound waves had cracked the sound cannon. Before he could move to turn off the power a change came over him. It seemed as though a hot ice pick was being driven through his brain. He felt a stiffness coming over his limbs and he tried to move far enough to reach the switches, but he was powerless. Even in his ghastly predicament he was able to figure out what had happened. The beam of the music was touching and freezing his own brain. Unless he could stop it instantly he was lost!

With a final attempt to save himself, he crashed his hands, fingers splayed,

down upon the keys. There was a roar of sound from the cannon. An almost visible beam of power shot from it straight into the man at the organ.

The organ itself leaped from the floor six inches and vibrated. Suddenly the music stopped. The death instrument had been destroyed. But Vance did not move from the bench.

He just sat there for a long moment, and then his body seemed to coil up almost like a piece of spaghetti. He slid from the bench and lay sprawled on the floor. His face was white and ghastly. There was something in his blank look that seemed to indicate that his brain was completely destroyed. And there was something in the limp look of his arms and legs that seemed to show that he had not a whole bone in his body.

COMETS VAGABONDS OF SPACE

Comets are a mystery to astronomers. They obey natural laws in some respects, but in most cases, are very mysterious in their actions. What are comets? Are they heated bodies, carrying with them a halo of incandescent gases? If so, how can such a small body retain heat in space? Why does their tail always point away from the sun? Why the apparent aversion to gravity? In this they are exactly contrary to all the laws of space and physics. Why do they have such vastly eccentric orbits? Where do they go when they sweep out into the depths of space for sometimes hundreds of years, only to return to the sun that has captured them? Are they fragments of a shattered planet? Then why the strange orbit? Are they material at all, or merely gaseous? Where do they get their terrific speeds? What would happen if one hit the earth? Was it a comet that landed in Siberia—in Arizona? Obeying no planetary theory, what strange cosmic law created them? Of all space's mysteries, comets are the greatest, the weirdest, and the one that has baffled science completely. Perhaps someday we will realize their significance.



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MONSTROSITY of EVOLUTION

By THORP McCLUSKY

Helpless, unable even to move beneath the weird mental power of the human travesty in Traffarn's laboratory, Mary Ethredge matched wits with an insane monstrosity

CHAPTER I

A Strange Pair of Eyes

POLICE Commissioner Charles B. Ethredge grasped his wife's arm as he escorted her down the ramp and along the narrow platform that led between the deep track pits.

"There he is, Mary. Just getting off the train. And that old lady in the wheel-chair must be Aunt Hermione."

They hurried forward.

"Doctor Ray!"

The powerful, though deplorably stooped old man who had clambered from the train directly behind the invalid's chair, turned and straightened.

"Charles! And Mary, too! My congratulations to you both—you know, I

Ethredge fought to escape the thing's awful mental power

Julian S. Kreischer '50

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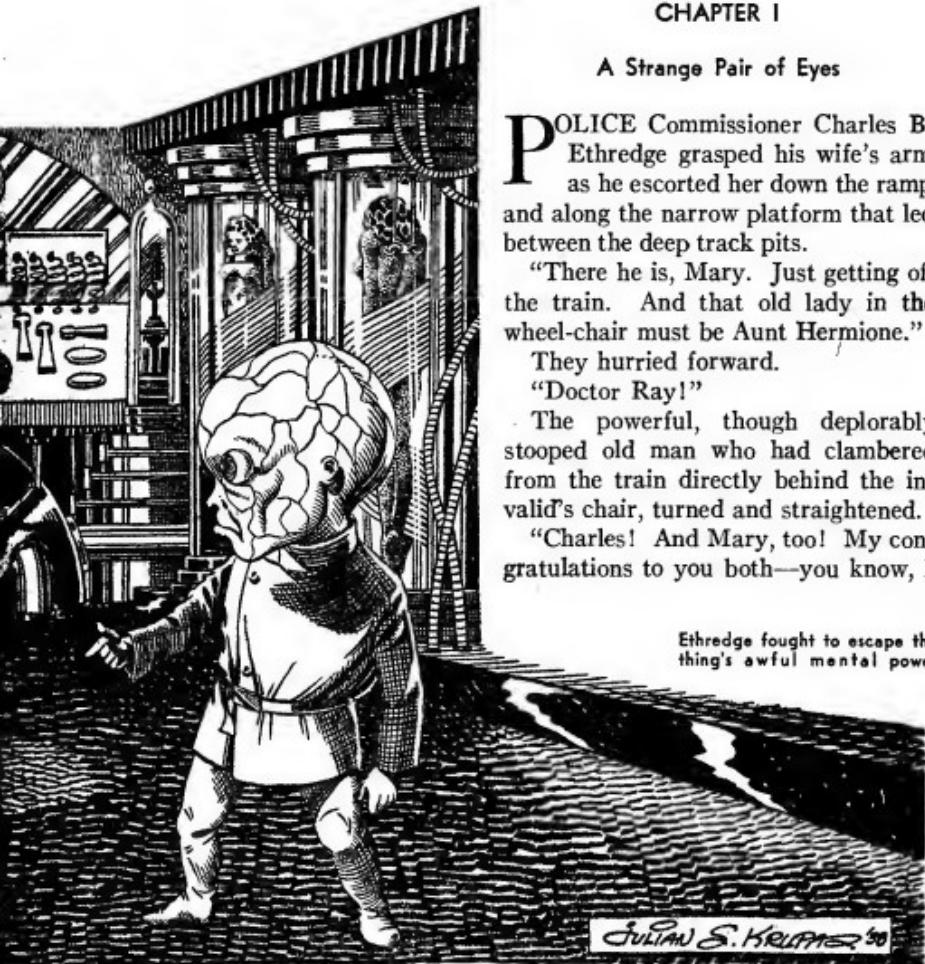
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haven't seen either of you in—is it two years? Yes, two years. Mary, you're really more beautiful than ever, truly you are. Married life must agree with you, eh?"

He extended a sinewy, square-fingered and acid-stained hand and shook hands in turn with both the Ethredges. But, somehow, his greeting lacked the natural enthusiasm Ethredge had expected from Dr. Raymond Traffarn. Two years had evidently changed him greatly. Almost he seemed resentful of their presence. And yet, earlier in the week, he had personally telegraphed, asking the Commissioner to arrange facilities for transporting his paralytic Aunt from the station.

He directed the porters now, and the procession made its way up the ramp and out to the exit, where the limousine waited.

"Careful now," he admonished the porters as they reached it.

The driver of the car stepped down and opened the extra-wide tonneau doors; his breath was frosty with the November cold that struck down from the invisible street.

There was a momentary pause; the porters seemed undecided how best to lift the chair and its immobile burden into the car. Ethredge stepped forward.

"I'll take this side," he said. "You two men take that side, and try to avoid jarring her—" He stooped, reached toward the chair's vertical uprights.

And paused. Paused as definitely and completely as though the eyes into which he gazed, eyes half obscured behind the heavy concealing veil, had not been the eyes of a paralytic old woman at all, but the congealing orbs of a Medusa! Right hand outstretched, body stooped, he stood rigid as though he were, literally, turned to stone!

Yet, astoundingly, powerless though he was to move, his brain went on

thinking, crazily, shudderingly, that those eyes were, indeed, strange; not the eyes of a human as humans have evolved, but in various ways different. Sunken behind folds of motionless, pallid flesh, only vaguely glimpsed through the obscuring veil, those eyes, as they turned to meet his gaze and stop him in his tracks, had revealed their alien nature.

The curvature of the silvery-white eyeballs was far less than that of human eyes; they must be, Ethredge knew, if even remotely spherical, enormous. And the pupils were inky black, and huge. But the greatest horror lay in Ethredge's instant conviction that those eyes had never been designed for the skull within which they moved; their very presence in the ponderous face was an anachronism. They had turned and turned behind the narrow slits in the motionless flesh as though their rotation would never cease.

Perhaps it was the shock of glimpsing those eyes that halted Ethredge. Certainly he was unable afterward to determine whether or not the figure had flung a soundless thought-command in his face. Certainly he recollects no words. But the certainty remained with him that the will, the soul, the being within the obese swathed body had spurned his proffered assistance in one mighty, wordless concentration of malign rage.

Ethredge could not move forward. But he could, and did, move back. The thought was in him, then, that perhaps he had gone suddenly mad.

Doctor Ray said uneasily, "You'd better let the porters lift her, Charles. She seems to have taken a sudden dislike—she's very temperamental—," he concluded apologetically.

Ethredge proffered no further assistance, and the porters lifted the old lady into the tonneau of the limousine without mishap. There was a moment's em-

barrassed silence.

"I'd ask you to accompany us to the Van Buren," Doctor Ray hesitated, "only—"

With instant, instinctive tactfulness, Mary interrupted, "You'd prefer to have this evening to yourselves, just you and your Aunt Hermione, now, wouldn't you, Doctor Ray? We quite understand. You'll come to dinner later in the week, of course—"

"Yes, yes, Mary. I'll telephone you, Charles."

Doctor Ray climbed into the limousine beside the enigmatic, shrouded figure, and the car moved slowly upward toward the street.

Mary linked her arm in her husband's and they turned away toward the taxicab stand. As they walked to a waiting cab Mary puzzledly asked:

"We've known Doctor Ray a long time, haven't we, Charles?"

"I've known him for twenty years," he said slowly.

"We've visited his family—up Cape Cod way—three summers ago—remember? We met his two sisters and his brother Romayne—of course, his mother and father are dead. But I never heard of this Aunt Hermione before."

Ethredge did not reply until after they had entered the cab and he had given the driver their address. Then, as the taxicab moved slowly upward into the city's traffic he spoke, and his words, though low-pitched, were tense with a strange bewilderment, "Neither did I, Mary. I never heard of this—Aunt Hermione before, either—"

CHAPTER II

Mary's Fears

MARY ETHREDGE lifted her demitasse, took a meagre sip, and set

the fragile eggshell cup carefully down. She waited until the maid had left the room, then she spoke to her husband.

"Charles," she said slowly, spacing the words leisurely so that almost imperceptible silences fell between, "there's something that's been—troubling me. It may all be silly, I admit. But I want your opinion. Would you—before you go upstairs to change for your bowling?—"

Ethredge looked across the dinner table and smiled, gravely and fondly, at his wife. He knew this mood of Mary's; whatever she had to communicate was of the utmost importance, and had already received her most careful consideration. There were depths in Mary, depths and intelligence and perception. . . .

He pushed back his chair. The little maid came running in.

"We will be in the den, Heloise. Please don't disturb us unless we ring."

The little maid bobbed her lace-capped head.

Mary leading, the Ethredges walked across the gleaming-floored hall and entered the Commissioner's small, extremely masculine den.

Ethredge took a cigar from his pocket, extended the cigarette box on the desk toward his wife, and gestured toward the red-leather divan. Mary selected a cigarette, waited while her husband gave her a light, looked at the divan and shook her head, then changed her mind and sat down. Ethredge pulled up the club chair and waited.

"Charles, this is the twenty-eighth of March."

Ethredge closed his eyes briefly, then nodded vaguely. The date had no particular significance that he could recall.

Mary leaned forward. "Doctor Ray arrived in town in November. He'd been in Canada for over two years. Over three months have passed since

the day we met him and his aunt at the station. He's dined here—just twice. He's reciprocated by taking us to the theatre and dinner—just twice. And all that was before the New Year, while he was still at the Van Buren. He bought the Buena Vista estate in December, but we've not been invited there. And remember, we were never in the Van Buren suite; he always called for us. Don't you think there's something definitely strange in that?"

For an instant Ethredge recalled, with a vivid repercussion of horror, the shuddering, instinctive conviction he had felt, when he first saw her, that Doctor Ray's Aunt Hermione had not been what she had seemed at all, but something infinitely terrible. But the involuntary, crawling feeling of rising hackles at the base of his neck and down his spine was gone almost at once. Ethredge was too resiliant a person, with an attorney's mind too strongly trained in realism, to let unsubstantiated fancy run riot for long. Nevertheless, he stared thoughtfully at the brief ash forming on the tip of his cigar before he replied, with careful exactitude:

"There's no question but that Doctor Ray has avoided us since his return. Still, he's told us why; his Aunt needs constant care. Too, I've a feeling that she hated me on sight—couldn't bear me near her, really."

Mary looked up startledly. She caught her breath sharply, and for an instant Ethredge believed that a torrent of words was on the tip of her tongue. But when she continued she spoke quietly, almost too quietly:

"Charles, Doctor Ray's Aunt Hermione is a myth. There has never been any such woman, on either his father's or mother's side. I spoke to Gregory Luce about her. He wired his Boston office, and they investigated."

Ethredge looked at his wife, then down at the lengthening ash on his cigar, then back at his wife again.

"You must have had some very good reason for doing—this," he hazarded. "Some reason of which I am as yet in ignorance." But the back of his neck felt cold, and the flesh on his scalp was tightening.

The torrent came, then. The walls of Mary's restraint broke, and with them broke her composure, so that her words sounded queerly, and her hand shook so violently that the cigarette ash splayed across the gold and blue rug.

"Charles, dear—you know that I have reason. You know that I must have very good reason for doing such an unpardonable thing. You must have felt it, too; you just said that on that night in the terminal you felt that she hated you. Oh, Charles, the hatred in her struck out at me, too, like a—like an evil command blazing in my brain. I couldn't move, Charles; I could just stand and feel that hatred washing through me. Charles, dear—no human brain has such strength! She's not a woman, Charles—Doctor Ray's Aunt Hermione's not a woman at all; God knows what she is, but she's not human. . . !"

Ethredge sat still, the expression on his face unchanged, though with the revelation that Mary, too, had experienced that harrowing—and until now perhaps unbelievable—storm of paralyzing malignity, little ice-cold currents shuddered along his nerves and the beat of his heart became a mad pounding. Yet he must not alarm her more, and so he waited for an appreciable moment before he spoke, very quietly:

"You have not told me everything." She regained control over herself.

"No." Her right hand lifted to her neck, fumbled in the bosom of her dinner dress, and produced a small laven-

der envelope. She shook its contents out in her lap.

"Charles—these are newspaper clippings. I haven't them all, because I didn't suspect at first. But—those girls who have been disappearing recently. . . ."

Ethredge shook his head.

"You're wrong, darling. You've let conjecture take hold of your mind and prey upon your thoughts until it's developed this—absurdity." He rose, came over to the divan and sat down beside her, took her right hand in both his own.

"Mary, I felt that same—horror of Doctor Ray's mysterious Aunt Hermione that you've described. I'd no idea that you'd—suffered so. Probably she is a very vindictive old creature; we can't both be wrong in our impressions, can we? But this—this is impossible, Mary. There can be no connection. There's only a madman's, or a fiend's motive, behind those disappearances. You know yourself that Doctor Ray is a harmless old soul, while the old lady's almost a centenarian and a hopeless paralytic."

Mary's hand, held so fast between his own, was cold and slightly trembling. She sat looking straight before her, and he knew that all that he had said had not swayed her convictions. Presently she turned and looked at him levelly.

"You are stubborn, Charles. You have always refused to accept other than the most conclusive evidence." She paused, then slowly continued, "Here is something concrete, then. Doctor Ray kept the suite in the Van Buren until he moved into the Morehouse estate on December twenty-seventh. These disappearances began just four weeks later, on January twenty-fourth, and they have continued uninterruptedly ever since.

"But Charles — here is the point;

every girl who has disappeared has been placed at the time of her disappearance—that is, so far as is possible—in the Buena Vista district!"

For a long moment Ethredge did not speak. Then he said sombrely, "Buena Vista is outside my jurisdiction. But I will find out what I can."

Mary's small fingers squeezed his hands fondly. Then she added, the words urgent and glinting hard, "You might find out, also, from what source Doctor Ray obtained the funds with which to buy the Morehouse place. He was retired on half pay, and he is not a wealthy man—"

She struggled to suppress a shudder that would not be suppressed.

"Some day, Charles, we will learn why that old lady would not let us touch her. I think that she was afraid that if we touched her flesh we might suspect *what she was!*"

CHAPTER III

Ethredge Acts

ON the following Monday morning Police Commissioner Charles B. Ethredge arrived at Police Headquarters on the stroke of nine. Parking his car in the reserved court and, swinging his flat, tan leather briefcase in his right hand, he climbed the worn marble stairs to his office without pausing even to glance at the teletype on the first floor. Entering the big, austere impersonal room he shed his overcoat, hat, and scarf, and, tossing the briefcase on his scarred and ugly oaken desk, sat down and unbuckled its straps. At ten minutes past nine he picked up his telephone and talked with the switchboard.

"Have Peters come up whenever he's free."

Detective-Lieutenant Peters of the Homicide Squad presented himself al-

most immediately. He entered the room squarefootedly, walked across the ash-grayed carpet to a chair beside the desk, and sat his solid, middle-aged figure down without saying a word. But he was grinning like a gray-haired full moon. Ethredge, at sight of him, smiled too, though gravely. For these two dissimilar men—perhaps as widely divergent types as one might ever hope to find and bring together at one time, were the staunchest of friends.

Ethredge pushed the neatly arranged papers across the desk.

"Tell me what you think of this, Peters. When you've finished I'll tell you those things that can't be put down in black and white."

Peters, asking no questions, ran through the whole miscellaneous accumulation with a ferret-like rapidity amazing in such a stolid-looking man. When he had finished he looked up composedly.

"These disappearances have all occurred in a territory of which Buena Vista is, roughly, the geographical center."

"Yes."

"Buena Vista's an exclusive suburb. No gangsters there; couldn't be—all residential estates. So that rules out organized vice. Of course, there's the love cult possibility. Or the chance that all this is the work of some depraved, wealthy misogynist. Both possible, but highly improbable. In neither case would it have begun so abruptly, or continued with such uninterrupted regularity."

"You write here that Doctor Traffarn came to Buena Vista on December twenty-seventh, and that the first recorded disappearance occurred on January twenty-fourth. That is not strong coincidence, but it is strengthened by the Buena Vista Police Department's statement that there are no other new

residents of the district. And your comment about the pseudo Aunt Hermione certainly points to a definite mystery of some kind."

Ethredge leaned over the desk.

"Peters, I'm going to tell you about that Aunt of his—"

Quietly, exerting great care not to exaggerate, he related both his own and Mary's reactions to her. When he had finished Peters sat silently for perhaps three minutes. At last, weighing his words with painstaking deliberation, Peters spoke:

"God! It might be almost anything. If we presuppose that all this began with Traffarn's coming to Buena Vista, and that the disappearance of these girls are attributable either to him or to this—paralytic creature you have described, we are immediately confronted by any number of possibilities.

For example, in the brief time that elapsed since his return from Canada and his purchase of the Morehouse estate Traffarn banked checks drawn by several wealthy men—checks aggregating close to a quarter of a million dollars. Yet his pension is only six thousand a year. What is the truth behind this?

Of course, there is the possibility that he has resumed experimentation, and that these funds represent the backing of some private syndicate. The Morehouse estate is sufficiently secluded so that he could work in both peace and quiet. The delivery of large quantities of extremely peculiar apparatus to the estate strengthens this theory. Weakening it is the certainty that those men, all of whom are reputable, would not back any disreputable or illegal enterprise.

So, still holding to our original presupposition that there *is* a connection between these vanished girls and Doctor Traffarn, we are confronted by

two alternatives—either the girls came to the estate of their own free will, which is so improbable as to be practically impossible, or Doctor Traffarn's backers do not associate him with the disappearances at all.

In view of the fact that Doctor Traffarn had no callers whatsoever, other than tradespeople, the second alternative is probably correct.

Too, he gets along with only one servant, a definitely unprepossessing butler—a paroled thug. Where, and why, did he secure this man? All in all, the whole setup looks odd. There may be something hidden behind all this camouflage—something damnably unpleasant—”

Ethredge would have interrupted, but then Peters continued, “Of course, this money he has received may be in payment for services already rendered. But what services? They must have been extraordinary. Perhaps Traffarn has discovered something—a gland extract—”

“Good God, Commissioner, if we start supposing anything like that the thing becomes positively gruesome. But we know—or do we?—that the girls are still alive; bodies are damnably hard to dispose of, and so far there’s been no evidence. Still, I’d like to look over that place—”

Noncommittally Ethredge observed, “We’ve no grounds for searching the place. The Buena Vista Police wouldn’t act. There might be the damndest legal repercussions if they didn’t find anything.”

Peters shrugged. After a moment he began to hum softly to himself.

Ethredge, listening to that tuneless music, curled his fingers and stared absent-mindedly at their nail-tips. Presently he said:

“I think that if Mary and I were to drop out there some evening Doctor

Ray could not evade admitting us to the house. I imagine, too, that as we entered we could manage to release the catch on the front door. . . .”

The humming stopped. As though absent-mindedly, Peters stared about the room, at the long stark windows, at the steel filing cabinets and the oak bookcases — everywhere but at the Commissioner. Finally he looked down at the worn gray rug.

“You know, Commissioner,” he said, suggestively, “I make an ideal burglar. When I want to I can get around as quietly as a tomcat in a bulldog’s backyard.”

CHAPTER IV

The Horror in Traffarn’s Home

BUENA VISTA is a small suburb. The tourist passing through sees only a collection of notion shops, a few unobtrusive and spotlessly neat grocery stores, the Firehouse, Police Station and Postoffice—all harmoniously built of burnt umber brick and English fieldstone, a half dozen small and very exclusive shops — branches of Fifth Avenue and Paris firms, and three or four tiny but extremely snobbish-looking churches. The estates lying back in the hills or down along the shore are invisible from the highway; the tourist may suspect their existence but he never sees them. He is not intended to.

On this particular Thursday evening Charles Ethredge and his wife drove slowly through the village and turned off on the narrow macadam road that leads back to the Morehouse and several other estates. It was scarcely seven-fifteen o’clock but the Ethredges were already in evening dress. They sat together in the front seat of the sleek sixteen-cylinder sedan, and to all appearances the car contained no other

passenger, but they nevertheless conversed at intervals with a bulky laprobe spread out carelessly in the rear seat. Ethredge did most of the talking; the laprobe had little to say.

Ethredge was speaking over his shoulder. "Our story will be, Peters, that at the last moment some one gave us three tickets for tonight's Philadelphia Orchestra concert. 'Knowing how much you admire Stokowski, Doctor Ray—you've no phone installed yet, so we drove right out—'"

The laprobe chuckled.

A moment later the car turned off the macadam, crunched briefly along a loose gravel driveway, and rolled softly to a halt. Ethredge turned his head.

"We're here, Peters," he said quietly. "Good luck. We'll wait up until we hear from you." Then, "There's someone in the hall looking out, Mary. Shall we go in now? Are you sure you can go through with it all right?"

"Completely confident, Charles."

There was the sound of Ethredge getting out of the car, then Mary's door opening, a soft satiny rustle, and the solid chunking of steel against firm rubber chocks. Peters, listening, heard their footsteps crossing the gravel, then the opening of a door and conversation too blurred by distance and the steel body of the car to be resolvable into definite words. The door closed, and there was silence.

Warily, Peters waited a few moments; then he opened the left rear door of the car and slid quietly from beneath the robe down into the gravel. The car shielded him from the house now, and presently, avoiding the fan of illumination from the entrance hall and the yellow light from the living room windows, he reached the concealment of a dark mass of unkempt shrubbery close to the house. Obscurely as a drifting shadow he crept up to the

portico and flattened against the door, pressed his ear close against the white-painted wood. Silence. Slowly his fingers turned the brass knob. . . .

The door opened, he snapped the night-lock on, and closed the door behind him. As he had expected, the hallway was deserted. From the living-room at his left he heard the murmur of voices; light showed along the narrow crevices beneath the living room door and a smaller door, beneath the stairs, that led into the butler's pantry. But the closed room on the right was dark.

Peters paused only an instant, then he was through that door and lost in the darkness beyond.

For the fraction of a second, then, his nerves crawled. In the profound gloom, across the room from him, something had moved. But, as his eyes became accustomed to the blackness his tenseness lessened; no other living thing was in that room. That whitish movement he had glimpsed across the room had been merely his own reflection, ghostly and fragmentarily sensed, rather than seen, in an almost invisible plate-glass mirror sunk in the wall above a shadowy marble fireplace.

He waited, then, for what, seeming hours, was probably no more than a few minutes. The pair of intervening doors blotted out all sound from the living room, although once he heard the butler pad down the hall and leave the house, returning within a few minutes, apparently after having made a complete circuit of the grounds.

The occupants of this house feared something. What? Discovery? Interruption?

Abruptly, shattering the nerve-racking stillness, the living-room door opened, and a chatter of voices emerged into the hall. Peters thought he detected a hint of false insouciance in

Mary's staccato phrases; Ethredge was laughing and joking a trifle too boisterously. The third, and, to Peters, strange voice, was a shade too high pitched; there was a shadow of taut unease behind its apologetic words.

"—as much as I would have enjoyed the concert—my Aunt's condition—I seldom go out any more, Charles—"

"You should have a telephone installed. Keep in touch with people . . ."

"I'm afraid that would be impossible. My Aunt's becoming terribly sensitive —"

The voices moved toward the door.

"We're really sorry, Doctor Ray, that you can't—"

Peters heard the goodnights clearly, the sound of Ethredge's car driving away.

The man by the door remained there for an appreciable moment before, slowly, he walked back down the hall and re-entered the living-room. After a brief moment he came back into the hall and climbed the stairs to the second floor. But he was not alone, now. Something had come from the living-room with him and climbed the stairs with him; the sounds of their footsteps and of their conversation were lost in the silence above.

And as they passed, Detective-Lieutenant Peters, crouching behind the door of the black deserted room, felt the pores of his body swell and stiffen and the individual hairs on his shriveling flesh stand erect in a sheer animal ecstasy of horror.

For the sound of that something's walking had not been the cadence of human footsteps! That something had passed along rapidly, taking two steps to each of Doctor Traffarn's one, and its passing had been almost undetectable, as though its feet were bare or softly sandaled, or as though its feet were not feet at all, but perhaps *paws*.

And it had stepped on each stair twice, as though its stature were very slight or its legs very short.

But it was not the sound of the thing's walking that was the greatest horror—the horror that brought stifled scream after scream to Peters' throat and drove beads of icy sweat from his shriveling pores. It was the sound of the thing's conversation.

For that unseen something had been talking to Doctor Traffarn as superior talks to inferior, as employer talks to servant, as baron talks to serf. And the timbre of its voice had been a mouthing, as though it possessed no teeth, like a bird, and no jawbone or bony structure whatever to its oral cavity, like no known biped that walks this earth!

Yet its words had been recognizable, and in their recognizability lay, for Peters, the ultimate horror. . . .

How long he lingered there in that darkened, mausoleum-like room, fighting the recurrent and uncontrollable shudderings that brought the sweat pouring in intermittent rivulets from his clammy flesh, Peters afterward did not, could not, know. But it must have been for a considerable time. Despite his terror of the unknown something he had heard there still remained in Peters a reserve of sanity which gradually began to reassert itself.

Later he vaguely recollected trying locked doors at the rear of the room, doors which he subsequently learned led into a small, informal parlor. Mostly, however, he remembered merely listening, listening to nerve-shattering, unbroken silence.

Once the butler came from the rear of the house, went out into the grounds, and, faintly, from a distance, Peters heard the clang of iron gates. After an appreciable interval the butler returned.

Then slowly, noiselessly, Peters opened the door, and stole like a fleeting projection from a magic lantern across the illuminated hall and vanished within the deserted living-room. The door behind him whispered as it closed.

The darkness was intense, and Peters stood rigid as a tensing cat until he had satisfied himself that no living person or *thing* other than himself breathed or lurked within that room. Then he drew a small electric torch from his pocket, adjusted the lens so that it would emit only the narrowest cone of light, and began systematically to prowl the room.

The tiny circle of light, moving purposefully and cautiously, scrutinized each chair and sofa and table; once it paused while Peters' stubby hand appeared and flicked through the leaves of a book lying on an end table. It moved toward the front of the room.

And then every nerve in Peters' hyper-taut body leaped in screaming unison as the moving beam outlined a face, and the shadowy uppermost part of a wheel-chair!

It was almost like some madly conceived portrait—that abruptly revealed face against the straightbacked chair, the whole composition starkly moulded within a circle of pitiless light and framed in deep, deep darkness. But it transcended any portrait ever attempted by human hands.

Not because of the face—that ponderous, obese mass of flesh upon flesh that looked as though it would never grimace or frown or smile of itself again, it was so utterly still. No, not because of the face, nor because of the veil that lay tumbled across the right shoulder in a position wholly alien to any ministration of loving hands. No, not because of the face or the veil.

But because of the horror that stared at Peters from deep within the fat-en-

circled eye-sockets—the horror that stared and stared and stared at Peters until his mind whirled and he forgot all time and space and meaning, forgot even who he was or why he was there—!

For there were no eyes within those sockets! Only blackness!

Peters' mind did not hear the small thud with which the electric torch slipped from his nerveless fingers to the floor. Neither did it hear the butler's footsteps approaching from the rear of the house, the opening door, the sharp, startled oath and snarled command. But his ears heard, and automatically he turned about and lifted his hands above his head.

The butler touched a switch, and lights blazed in the room. Gun in hand, he walked purposefully toward Peters. Peters' eyes stared glassily, not toward the butler, not toward anything.

Something was descending the stairs—!

And then, as a galvanic shock causes dead muscles to leap, as freshly applied torture causes mercifully unconscious wretches to revive, the sight of the small tittering horror that had come down the stairs and was now skipping across the room toward him seared Peters' benumbed brain into agonized consciousness.

He screamed—

CHAPTER V

Traffarn's Secret

THE room, save for the ticking of the tall grandfather's clock and the crackling of dying embers in the fireplace, was tensely still. The two persons—the man in full evening dress, the woman swathed in a quilted dressing gown—had not moved or uttered a word for many minutes. The man rose, put two more logs on the reddening embers, and sat down again.

Perhaps the gesture, the physical act of replenishing the fire, impelled him to speak. He said, sombrely, "I think they've—got Peters."

The grandfather's clock, as though to emphasize his words, struck slowly—five deep mellow notes. Mary Ethredge shivered and drew the dressing-gown closer about her body.

"It's been—nine hours, Charles."

Her husband nodded. "Yes. And no complaint has been made to the Buena Vista Police. They've—got him. They're holding him and not saying a word."

"Perhaps they've—killed him."

Slowly Ethredge shook his head. "I don't think so. As far as we know they haven't killed anyone—yet. I think that there's still a spark of humanity left in Doctor Ray." He rose abruptly, and stood looking down at his wife. "You'd better take some luminol and go to bed."

Mary looked up, smiled faintly.

"Charles, I'm not going to bed until we've heard from Peters."

Thoughtfully, Ethredge nodded. He turned back to the divan and sat down again. He had expected this answer from Mary.

He said quietly, "If there's no message from Peters by nine I'm going back there."

"If you go, I go with you."

She had never heard his voice before as she heard it now. It was level, flat, almost terrifyingly colorless in its unanswerable finality.

"No—I'm going alone."

She said nothing. The grandfather's clock ticked on.

Night dragged into day. Heloise, her sloe-eyes still sleep-softened, came into the room and exclaimed something startled. Ethredge laughed.

"Coffee, Heloise. In here."

After he had drunk his coffee Eth-

redge went upstairs, shaved and changed and came back down. He was shrugging his shoulders, and Mary knew that he wore a shoulder holster between his coat and vest.

Nine o'clock came, but no message from Peters. Matter-of-factly, Ethredge rose to his feet, slipped into his ulster and picked up his hat and gloves. He smiled reassuringly at his wife.

"You have everything quite clear, Mary? That, if Peters calls, you are to have the Buena Vista Police send a car to notify me at Doctor Ray's at once? And that if you do not hear from me by noon you are to get in touch with Cassidy?"

Mary nodded. She could not trust herself to speak.

Ethredge considered. "You have my written complaint—in case it becomes necessary to use it. Cassidy can arrange for the warrant. So—don't worry, sweet—"

She was in his arms, then, and for an instant he held her close, kissed her. Then, almost roughly, he pushed her away, turned, and, with the long, limber stride she knew and loved so well, walked from the room.

The distance to Buena Vista is not great, not over eleven or twelve miles. Ethredge made good time; at that hour he was driving against the incoming traffic. The lanes leading out of the city were relatively free of cars. It was barely nine-thirty when his big sedan turned in the gates of the Morehouse estate and rolled up the curving gravel approach to the house.

The butler, his brutish face enigmatic, admitted Ethredge to the house, took his coat, hat, and gloves. To Ethredge's surprise, he said, then: "Doctor Traffarn has been half-expecting you, Sir. Will you step into the library?"

He opened the door of the same informal livingroom with which Eth-

redge was already familiar, and inclined his head. Ethredge nodded curtly and walked forward. The door swung shut behind him.

He saw the old lady instantly. She sat as she had sat last night, before one of the windows, her ponderous features hidden behind a heavy veil, her profile toward the room. To all appearances she might very well have remained there all night, the position of her body and of her wheel-chair seemed so utterly unchanged.

"Good morning, Charles. Please sit down. I have been—waiting for you."

Ethredge looked at Doctor Ray's stooped though still magnificent figure sitting there beside an oval-topped table. There was a faint, grim smile on the man's cragged, impassive face. Ethredge's gray eyes narrowed.

"I see that I may come right to the point," he said harshly.

"Yes. There need be no beating about the bush, now. You have meddled too deeply, Charles."

"Very well." The muscles along Ethredge's lean jaw tightened. "What have you done with Peters, Doctor Ray?"

The old physicist deliberated for a moment before he replied. When he spoke his measured words were quiet, almost gentle.

"He is upstairs—with the others."

"The girls?"

"Yes. But—a moment, Charles. Neither they nor he have come, or will

come, to any harm." He lifted his right hand beseechingly. "You have known me through enough years to understand that there is neither cruelty nor vanity in me, Charles. So—believe me when I tell you that you are interfering, or attempting to interfere, with the orderly completion of an experiment that may advance mankind in one brief stride several million years toward its ultimate evolutionary destiny, an experiment which may, within one short generation, transform men into gods!"

He paused. His voice, his body had begun to tremble ecstatically. His eyes gleamed; his whole face was momentarily transfigured. After a moment he went on, more calmly:

"Charles, I have discovered a way to hasten evolution, not by speeding up the life processes to provide more transitory generations, but by activating the chromosomes, the genes, in the individual himself. I am the first man to reproduce, in the laboratory, the cosmic radiation that has, from the beginning, bombarded earth, the cosmic reagent that turned non-living slime into primeval protoplasm and has actuated, through the eons, its slow climb upward. More, I have learned to amplify its intensity a billionfold! *

"Look!" Swiftly he stooped and stripped shoe and stocking from his right foot. With a distinct sensation of shock Ethredge saw that his small toe had atrophied until it was no more than a slight protuberance far back on

that life is caused by radio-active radiation born in the heated interiors of flaming stars, or even in the radio-active core, and flung out into space, to bombard livable planets with an intense and constant force, thereby causing the chemical reaction that is life.

And the bombardment of rays continues, causing constant change, constant evolution of that life toward more complex and varied forms. There is no doubt that mutations are an extraordinary and phenomenal result of constant exposure to inconceivably powerful and basic vibrations and radiations of a radio-active nature.—Ed.

* The cosmic radiations Dr. Traffarn refers to are no doubt a part of the solar and stellar radiations to which science has long attributed many of the miracles of life on earth, and possibly on other planets as well. Many scientists held that life was fostered by living spores floating through space, and bursting into activity upon landing on a fertile world. But the newest discoveries, proven to great extent by the intrepid pilots of the stratosphere balloon, Explorer II, indicate that living spores cannot live long under the influence of the extreme cold of interstellar space, nor even of the upper stratosphere. Thus, it would seem

the side of the foot; the other four toes had grown together in a curious, arching wedge.

Ethredge muttered an abrupt oath. Doctor Traffarn, still stooped, replaced his stocking and shoe. He straightened, then, and continued:

"Yes, I have evolved myself—many thousand years. I cannot show you my teeth as proof, because unfortunately," he smiled slightly, "I lost my natural teeth many years ago. But the hair on my head is much finer than it was, and my skull has deepened; you can see these things for yourself. My cerebration has improved—"

Again he paused. Then he added briskly, "You see now how I obtained money. I sold, to a number of men, the privilege of brief exposure to my apparatus. You know those men. You know how they have—*changed*—"

Ethredge knew. Without exception, their wealth had multiplied, their power skyrocketed. . . .

A queer, twisted, somehow wistful smile flitted across the old physician's craggy, worn face.

"Charles, I want to send myself still further up the evolutionary ladder. But I have not, as yet, dared—"

"Why?" The question was sharp, incisive as the crack of a pistol.

Again the twisted smile.

"How would you like to evolve, and, as you evolved, watch all mankind seemingly retrogress, become—in your eyes as the beasts appear to you now? You see? I have gone as far as I dare, for the present. I cannot go farther until I have ascertained one thing more—whether or not my new race can reproduce its kind."

Ethredge stood up, then.

"Doctor Ray," he said quietly, "I hope, for your own sake, that those girls and Peters have not been harmed. For I believe that you are—mad, and I

would not want to see you spend the remainder of your days in a hospital for the criminal insane—Doctor Ray, I am going to search the house—"

His left hand gestured an unmistakable command.

"Stand up, Doctor Ray. You are coming with me." Then, "Good God!"

From the veiled, statuesque figure seated in its wheel-chair, half facing one of the long windows and doomed, apparently, to look out through the interminable dragging hours at the slow shifting of the day, had come a high-pitched, tittering chuckle! Ethredge wheeled swiftly.

"Good—God!" he repeated, hoarsely.

The figure's high-throated and full-breasted waist had fallen abruptly, stiffly forward, like a hinged door! As a dragonfly emerges from its cocoon, as a snake crawls from its skin, a monstrosity was wriggling and twisting through that aperture, to stand poised on the figure's knees for an instant, and then jump lightly to the floor.

"Good God! Good God Almighty!"

Ethredge was thinking, over and over, in inane, mindless reiteration. That thing—that horror that had come from within the seeming body of a harmless old woman, and that was now skittering across the floor toward him—

CHAPTER VI

Trapped!

IT was small—hardly over three feet tall. One-third of its height was head—a head almost twice the size of a man's, utterly, obscenely hairless, and almost perfectly spherical. The nasal orifices were reduced to naked slits set far down in the unseamed, featureless curve of face. The mouth was a small, toothless, membrane-lined ring of rubbery muscle. The earshells were ves-

tigal, mere ridges of cartilage surrounding naked holes leading into the globe-like head. The eyes were enormous, inches across, with tremendous, staring pupils. The whole head was a peculiar dead-white in color, and it was striated over its entire surface with a multitude of tiny bluish veins.

The neck was a grotesque spindle; the body was small as a three-year-old child's, and oddly proportioned.

The legs were slender, frail-seeming shafts shod in soft, glove-tight stockings of some heavy knitted material—possibly wool.

The thing wore a snugly-fitted and obviously amateurishly tailored garment that had apparently been cut from a silk pajama suit; this one-piece garment completely covered its body from ankles to throat—excepting its baby-like, delicate and nailless-fingered hands.*

Horrible as it was, remote as might be the kinship now, yet Ethredge knew, knew unmistakably, that the thing was of *human ancestry*.

It had left the wheel-chair and was approaching the two men.

"Good God!" Ethredge was muttering, again and again. His right hand stabbed within his coat, tugged at the automatic. He heard his own voice, r a c k e d , unrecognizable, babbling, "Stand where you are, you damned—gargoyle!" The gun in his hand lifted. . . .

* The weird creature described here is an accurate conception of an evolved human being, as it might be untold generations from today. Through the ages, we know from actual skeletal remains, that the human race has evolved along steady and definite lines, through a series of progressive mutations. Beginning with the great ape, we progress through the Pithecanthropus, the Neanderthal man, the Piltdown man, and on up to the modern man. In each, the body characteristics have evolved along a steady trend of increased cerebration, gradually receding chin, less sloping, more elevated forehead, less pointed ears, less stockier body, and smaller, long-fingered

"Lower your weapon."

Ethredge never knew, afterward, whether the thing had actually mouthed the command, or whether its tremendous brain had emitted a telepathic impulse of superhuman intensity. But his hand, as though suddenly stricken nerveless, dropped to his side. The horror nodded its great head once or twice, and tittered. It padded forward with little short steps to the center of the room.

"Take his weapon," it directed, and now it definitely spoke the words, in a thin, liquid falsetto. Doctor Ray withdrew the gun from Ethredge's limp hand and placed it on the table.

Again the thing resumed its horrible tittering. Then, abruptly, it stopped, and began, in its slurred, gurgling falsetto, to speak.

"Startled you—when I came out of my shell, eh? I suppose my appearance, to the eyes of your kind, is a trifle grotesque? That is why we made the image; when people come here, or whence we travel about, I hide within her, and I watch everything that goes on through her empty eye-holes—from behind her veil. She is made of composition and aluminum mesh; she is really very life-like, eh? And she is necessary; were people to glimpse me they would become alarmed. I am evolved five hundred million years beyond your kind—"

The thing chuckled. "Yes. And yet, oddly, only two years ago I was a Ca-

bands, capable of more delicate and exacting performance. Assuming that the progression will remain constant, future evolution is bound to bring a human being constructed as here described. However, it must be borne in mind that environment plays a powerful part in evolution, perhaps a part as dominant as that of the cosmic rays themselves, in shaping the creatures it surrounds. Thus, a great deal depends on what happens to the earth itself in coming ages. There may be drastic changes, and terrible catastrophes, whose consequences may be a greatly altered environment, and therefore a greatly altered evolution.—Ed.

nadian woodsman, a hunter and trapper and guide, a single man—Pierre Bruneille by name.

"Doctor Traffarn knew me well; I had been his guide. He asked me to become his subject in an experiment, an experiment which would advance me ten thousand years along the evolutionary path. I did not understand, but I had confidence in him, and I consented.

"That experiment was repeated, not once, but many hundreds of times. Gradually I became as you see me now. As my intelligence expanded I redesigned Doctor Traffarn's primitive apparatus; the newly completed equipment you will presently see is my handiwork. The great plan—the plan to advance all mankind half a billion years in one short generation—is also mine.

"Only, I do not as yet know if the mutations you see in me are fixed, transmissible from generation to generation. But I will soon know. When the girls are ready, when they have progressed up the evolutionary ladder to a plane equivalent to mine.

"Then, if we can reproduce our kind, we will begin to evolve the race. Doctor Traffarn will be among the first. Your spy—the man we caught prowling this house last night—will of necessity be among this number. You, too, will be included. Before we permit you to leave this house we will have evolved you fifty thousand years—for with increased cerebration of a man of the seventieth century you will automatically be no longer our enemy, but our ally.

"There will be others—certain carefully selected men.

"From this small nucleus I will build the super race of the world!

"Come!"

The thing turned, and, with strange, incongruous dignity, pattered toward the door. Ethredge, though his whole

mind and soul revolted, followed; a wave of telepathic command almost as tangible as an arm of steel swept him irresistibly along. He felt himself walking from the room and steadily, mechanically, climbing the stairs to the second floor. The grotesque, diminutive horror clambered before him; vaguely he realized that Doctor Traffarn climbed beside him. The monstrous-headed obscenity pushed open an unlocked door, and abruptly they three were within an immense and peculiar room.

That room had been created by the simple procedure of knocking out all the partitioning walls throughout the entire second floor of the east wing of the house. Every window was heavily, opaquely curtained.

Down the full length of the room extended two parallel rows of seven foot cylinders, transparent and seemingly built of glass or crystal. These cylinders were set in two long insulated bases, and they were surmounted by room-length lintels of the same black stuff. A bewildering complexity of heavily insulated cables arced along the tops of the parallel lintels and sprang from the ponderous bases, and along the further wall a bank of grotesque and enigmatic mechanisms softly whined.

Ethredge, as he stared and stared at those parallel rows of seven foot, glass-like columns, felt his senses reel and his mind go numb. For, suspended within those cylinders by delicate, silvery harnesses fitting snugly beneath their arm-pits, their tapering toes dangling inches above the cylinder bases, were the nude, graceful bodies of the vanished girls! And, surrounding each girl, pouring about and through her body in unbelievably beautiful iridescence, was a rainbow-like radiance that constantly sparkled and scintillated, yet, like some strange neon glow, never changed.

The eyes of those girls were open—!

Yet Ethredge instinctively knew that there was no consciousness behind those blankly staring orbs; all mundane consciousness was submerged infinites deep beneath the surge of cosmic radiance that searched even the atoms of those girls' beings and swept them headlong up the evolutionary slope that ends only the silent gods know where.

The monstrous-headed thing was patterning down the farther row of shimmering crystal cylinders. It stopped, then, and turned about, and its unhuman, tittering chuckle gurgled above the rhythmless whine of enigmatic mechanisms.

"Come," it reiterated.

Ethredge, drawn by a leash of telepathic command too strong for any man's brain to resist, walked slowly down between the parallel rows of gleaming cylinders and their suspended, radiation-bathed female forms. And as he walked his mind was thinking wildly, "God! He's imprisoned them like—like bugs in bottles!" He approached the small, tittering horror.

The thing raised a spindle-like, silk-clad arm, and pointed.

"Your—spy," it chuckled.

Slowly, Ethredge's gaze lifted. Yes, it was Peters within that iridescent cylinder before which the thing had halted; through the scintillant glow he could distinguish the calm, solid face and iron-gray hair. Yes, it was Peters, hanging there stark naked.

The thing lowered its arm and tittered, horribly.

"He has been there seven hours," it explained. "Tomorrow, at dawn, we will set him free. In that time he will not have so far evolved that he cannot go back into the world and resume his place among your kind. But he will have become one with us. Just as you, presently, will become one with us."

The horror paused, then implacably

continued, in its liquid, gurgling speech, "You see, there are thirty chambers. Twenty-one contain my girls, and your spy occupies the twenty-second. Eight remain for casuals like you, and do not fear that they will not be occupied from time to time. For months must elapse before my girls are sufficiently evolved—

"But—come—" It pattered to the empty and darkened cylinder beside that in which Peters hung, and touched a control. One side of the seven-foot cylinder opened like a curved, transparent door, and within Ethredge saw a dangling silvery harness and intricate, gridlike metallic terminals protruding from floor and ceiling.

"The radiations are destructive to clothing. You will have to disrobe."

Though his will was fighting desperately to break its invisible shackles and resume control of his body, Ethredge slowly began to remove his coat. Doctor Ray approached, between the rows of shimmering cylinders; soulsick, Ethredge saw his own hands extend the coat to the old physicist. His fingers lifted toward his throat, fumbled and tugged at the knot in his tie . . .

Someone pounded, loudly and frenziedly, on the door!

For an instant Ethredge thought wildly that this must be the police. But then he knew that that could not be; it was hardly ten o'clock—almost two hours would have to elapse before Mary would telephone Cassidy.

No, it could not be the police.

The monstrous-headed blasphemy seemed, momentarily, to hesitate. Then its unspoken command seared deep into Ethredge's brain:

"Do not move."

Doctor Ray went to the door, released the bolt, and flung it open. The butler, gray-faced with fright, stumbled into the room.

Close behind the butler walked a woman. Clenched in her small right hand was an extremely efficient-looking .25 calibre automatic.

"Charles!" That abrupt cry was an anguished pleading. Through the lane of glowing cylinders the woman saw her husband; if, in that instant, she was aware of her utterly alien surroundings or of the tittering, gargoyle creature there before her, she gave no sign. "Charles—! I had to—follow you here—!"

CHAPTER VII

A False Evolution

E THREEDGE could not move, could not speak; his body just stood there—petrified hands touching the knot in his tie, rigid face a mask of horror. And, gradually, as Mary looked at him, at Doctor Ray's seamed, implacable face, at the monstrous whining mechanisms, at the twin rows of flame-bathed, crystal-imprisoned women, at the small disproportionate abomination that had left Charles' side and was now approaching her, the pupils of her eyes dilated, her lips and her lower jaw began to tremble, her slight, slender body began an intermittent shuddering. The gun muzzle wavered; the knuckles of her clenched right hand were slowly turning blue.

Calmly, Doctor Ray stepped forward and twisted the small automatic from her stiff fingers; the rat-faced, trembling butler exploded a prodigious, whistling sigh and lowered his arms.

"This woman outwitted you, Guilio," Doctor Ray said tersely. "See that you are more alert in the future. That is all; you may go back downstairs now."

The man stumbled from the room with almost indecent haste; Doctor Ray closed and locked the door.

The thing resumed its awful tittering.

Presently it paused and said, "Mrs. Ethredge—you see that I recognize you—it is fortunate that you came here today; it is probable that after we returned your husband to you you would have suspected the change in him; it is best that we evolve you both simultaneously. Yes, you have done us a great service by placing yourself so conveniently in our hands—"

By not so much as the faintest shudder did Mary, her small sweet body stonily immobile beneath the awful thought-dominance of the thing, signify that she had heard. Only the pupils of her glazed eyes grew, and grew.

Ethredge's half-maddened brain was fighting with the black fury of utter desperation to regain even an atom of control over his petrified muscles. And in that moment a wild surge of incredulous hope swept him as he realized that his right hand had moved—infinitesimally, like an arthritis-stiffened claw.

Instantly he knew the explanation.

The monstrous-headed horror possessed the will power of many men. When it had turned its thought-commands upon him his body had frozen into stone-like immobility or walked, zombie-like, as the thing directed. But now the horror was imposing its will upon not one, but two, persons, and the intensity of its commands were in just that degree diffused; even its tremendous brain possessed limitations!

Ethredge was struggling, vainly fighting to force his body forward. But only his right hand moved, very slightly, toward the abomination.

In that horrible moment—so horrible that even Doctor Ray's face had grayed as he realized what infinite torture these two persons were enduring—the thing tittered. It began, then, to walk back and forth before Mary, chuckling and gurgling to itself.

The grayness on Doctor Ray's face was deepening.

"What are we waiting for?" he asked harshly. "Let's end it quickly—put them where they won't know—what is happening to them—any more."

The thing stopped its pacing, stood swaying back and forth.

"Let's end it quickly?" Why? There is no hurry. I am appraising their revulsion and their resistance to me; all this represents valuable knowledge which I have not as yet acquired. You see? She even wishes to speak to us; she has something of great importance to communicate." It nodded its great head thoughtfully, then it said to Mary, "Very well, you may say whatever you will—"

Horribly, Mary's face came alive. Only her face; the rest of her body remained woodenly still. But her lips writhed and twisted, and she moaned—It was like no sound Ethredge had ever heard. It was awful with comprehension of the things the tittering blasphemy planned to do, bleak with agonized realization that, incarnate in that small, monstrous-headed obscenity before her, there lived, not only her own doom, but the doom of all mankind!

In tortured, disconnected phrases that were nevertheless implacable with conviction, she poured forth the thoughts of her stricken brain. And Ethredge, immobile, almost, as stone, sensed that she was directing her words to Doctor Ray, to Doctor Ray—who had not as yet evolved as had this other.

"You can't—do it! You can't—condemn all the people living on this earth today to serfdom while you gradually make our kind over into creatures like—that! You can't! Almighty God would not permit—!"

The small monstrosity gurgled appreciatively. It had begun to teeter back and forth on its spindle-like legs; ap-

parently it was very highly pleased. But the grayness on Doctor Ray's face was deepening, and his seamed old hands were beginning to tremble.

"There is no God," the thing crooned mildly.

Utter disbelief swept Mary's tortured face.

"Yes! Yes! There is a God, and He is not cruel. He may seem remote, He may even seem unreal, but He is not cruel. And this thing you propose is cruelty, terrible cruelty, and God will not permit it—"

She paused, and looked at Doctor Ray. But the old man, though his face was gray as a death-mask, did not speak.

For he believed that, though the race would suffer now, afterward would come Utopia.

Desperation lined Mary's face. And yet, though she knew that it was hopeless, she *must* make Doctor Ray understand, *must* point out to him the single, inescapable factor which, in his blind enthusiasm, he had failed to consider—the single factor which would doom his evolutionary blasphemies as surely as he was planning now to doom his own kind. Her gaze fastened wildly on Doctor Ray's gray face—clung.

"You can't succeed," she babbled piteously. Her agonized eyes were misting, bitter tears welled from beneath their lids. "You can't succeed—and you must stop this awful work before it has gone too far. You can stop it now, because you have evolved only one of your—creatures. But humanity will not be able to stop it after you have created many more—

"It isn't evolution—this thing that you have done! This creature that you have created isn't man as man will someday be—it is an abomination that would never have evolved of itself.

"This earth will change. The conti-

nents will drift, the seas will find new beds. The atmosphere will be different—even the length of the days and the very light from the sun will change.

"And the creatures that will live then will be the descendants of ancestors who, through the generations, will successfully resist every fluctuation in the terrestrial environment, and transmit, through mutations, their immunity to their descendants.

"A man of our time could not live then. He would die, because he would be an anachronism. Earth, and the stars, and all the universe, would have evolved, but he would not have evolved with them. He would lack the mutations to protect him.

"Just so this—thing of yours will surely die—living in our time. He is a blasphemy made up of our present evolutionary trends—horribly accentuated. Not one single influence that does not exist in you and in me has gone into his development; he is only a magnification and a distortion of characteristics we possess today.

"Men are becoming more intelligent—and so he has tremendous brain, but no more racial memories than we possess. Our jaws are receding and our teeth becoming less, and so his face has just gone on dwindling until it is nothing but an—expanse. In other ways we are changing, too, and he reflects and magnifies them all.

"But he reflects none of the beneficial and strengthening mutations that will mould future mankind, because the

circumstances through which those mutations will arise have not yet come about.

"Doctor Ray—this horror that you have created and plan to reproduce over all the earth is not even an anachronism from the distant future; he has no place in *any* time! He, and all his kind you bring into the world, will die because they are unbalanced accentuations, because they are unnatural, because they are environmental monstrosities.

"Look at him, if you do not believe me; you can see the death in him—now. Look at the blue veins on his scalp—see how the bones in his skull have thinned to permit his huge brain to grow—listen to his *voice*. There is death in him now, and I believe that he himself knows, though he will not admit to himself the truth. Ask him, ask him if he believes that he will live, even—five years!" *

CHAPTER VIII.

Cylinders of Horror

WITH a convulsive shudder, she paused. Only her eyes went on speaking, pleading with Doctor Ray, asking him to look upon the horror he had created, asking him to—question the thing. And as the slow seconds passed she saw that the aged physicist's face was graying, the stoop in his shoulders deepening, his strong hands trembling again.

The thing, that had been for a mo-

* Mary has expounded a basic truth that cannot be disregarded. It is only through actual and slow building up of natural evolution that a species can gain the necessary resistance and strength to maintain its own life. A slow impression of environmental factors on the chromosomes and genes, to be passed on through the generations in a slow building up of racial strength and virility.

The great dinosaurs failed in this respect, and were not able to adapt themselves to their environment. Thus they vanished from the earth.

Pithecanthropus Erectus apparently ran up a blind alley, so to speak, and outstripped his environment. He died.

And so it is with all life. Placed in modern times, the Piltdown man would not survive. He would succumb to the commonest disease, positively fatal because he has built up no age-long resistance to it. And so, it is quite evident that a completely evolved creature will not be able to cope with a vastly different environment from that actually *bred* into its constitution.—Ed.

ment silent, resumed its tittering. Only more violently, more recklessly; almost there were undertones of madness in its liquid, gurgling mirth. Convulsive laughter racked its frail body.

It spoke.

"The thought—the conception—that I am only an anomaly that will presently, quickly, die is absurd!" The horrible tittering went on.

But Doctor Ray's lips were moving, forming soundless words.

"God—affronted!" he was murmuring. "Evolution—time—violated!"

His jaw muscles tensed, his sunken cheeks ribbed with knotted, iron-hard bands.

"Ask him, Mary?" he whispered slowly. "Child, I need not ask him, for I see that he—knows—what will be." His voice strengthened, then, as he spoke to the thing—though he still spoke quietly.

"You who were once a man—you who were once—Pierre Brunelle; I am sorry that I ever made you—what you are. I can never undo that wrong, but I shall always provide for you, and you shall always dwell with me. Perhaps, together, we can accomplish many things; I believe so, for you have superhuman intelligence.

But we must end, now, these mistaken experiments. For, until men become as gods, until men become able to evolve environment simultaneously as they evolve the life within that environment, these experiments are pre-doomed to failure. And I think—I think that that day will—never come—"

He stopped speaking, for the thing had resumed its awful tittering. And through its gurgling laughter came its almost unintelligible speech: "It is too late, now, to discontinue what you have begun. For you have already evolved —me. And I have mental powers—powers of will—"

It spoke no more. But swiftly, stunningly, its tremendous brain poured forth a surge of malignant thought-command that surpassed its former effort as a glare of lightning surpasses the gleam of a candle. Beneath that terrific impact Doctor Ray and Mary reeled like stricken cretins. And then, with ghastly simultaneity, they turned, and faced the twin rows of gleaming cylinders, and shambled, with hurried yet dragging footsteps, toward those cylinders that yet were darkened, without occupants!

"God!" Ethredge thought, as they stumbled down the lane of cylinders toward him, "it's overpowered us, now. Once we're within those chambers all thought will be blotted out—we'll begin to become like—him! And if he can keep on unmolested for a few months more—until he's made us all—thought monsters like himself—he will be in command of a race that will dominate the world—!"

Unerringly, as though driven by some cosmic homing instinct they were powerless to disobey, the grizzled, stooped old man and the amber-haired woman moved past Ethredge and halted before the next adjoining pair of darkened, vacant cylinders.

"Disrobe!"

That command was not spoken. It was not transmitted by any puny displacement of the air molecules in the room; no sound recording device ever built by man would have detected the tremendous fact of its existence. But it blazed in the brains of those three like the light in the center of a sun; their hands, their bodies, moved hurriedly, jerkily, to obey! Mary's small fingers fumbled at the clasps on her rough tweed skirt; Ethredge's, Doctor Ray's hands lifted to their collars.

And then, striking from what seemed infinite distance, came a strange, fa-

miliar sound! Faintly, faintly, but growing; it was a rushing, ululant wailing! And as it grew it resolved itself into unmistakability; it was the shriek of a police siren tornadoing toward the house!

Abruptly, as the horror diverted, to a degree, its attention to this new menace, the gripping agony blazing in the brains of the three lessened to bearability. Almost intolerable exultance seized them as they realized that they could even move their hands and limbs a little, that the thing's awful telepathic powers were being diverted.

The scream of the siren crescendoed, and whined into silence; the house trembled as the downstairs door burst open and thudding footsteps and demanding voices filled the hall. The rush of sound swept through the downstairs rooms and moved toward the first-floor staircase.

The horror came, then to an instantaneous decision. It teetered swiftly forward, unlocked and took the key from the heavy door, opened the door and stepped into the hall. The door started to close.

The thing's intentions were plain. It planned to lock the door behind it, subdue the interrupting policemen, and then, returning, resume its sway over

Ethredge, Mary, and Doctor Ray before they could escape that second floor room.

The door was closing, though slowly.

And then, in that last split-second before the door would have completely closed, the monstrous-headed horror shuddered, tottered, and pitched forward on the obscenity that was its face!

For, in that instant, it had relinquished its telepathic control over the three within the room. Perhaps it had

forgotten, in the stress of that moment, Mary Ethredge's small revolver, lying at the bottom of Doctor Ray's jacket pocket. But Doctor Ray had not forgotten. Instantaneously, as the power to move of his own volition had flooded back into his being, he had stabbed his fist into his pocket and fired through the fabric!

Ethredge was plunging through the door. The hallway was a confusion of voices; bubbling, gurgling sounds were issuing from the shapeless, vestigial

lips of the thing on the floor of the hallway.

Ethredge was through the door. Doctor Ray and Mary were pressing close behind him. Swiftly he babbled over his shoulder, "We must keep them from—that room—!" Hurriedly he stooped, picked up the key from the rug,



The horror teetered toward the open door

and locked the door.

He looked at the ring of suddenly awe-stricken, suddenly horror-blanchéd faces confronting him. He wondered, crazily, if he could speak to these men without revealing the awful terror he had undergone.

Words came. "It's all over, boys." His voice sounded strange, too high-pitched. "This thing was a—freak; you've heard of freaks—? Circus freaks—

"This poor devil went—mad, and became violent. Doctor Ray had to shoot him—in self-defense." He nodded significantly to Cassidy. "Will you remain, Cassidy—and Captain Donaghue too?

"The danger has passed, now. The creature is dead."

But the creature was not dead. Its bubbling, gurgling breathing that had apparently ceased resumed for an instant, and from its shapeless lips issued three mumbled, liquid sentences, "She—spoke—the—truth. I would never have lived—a lifetime. I *knew*, but I was determined to try . . ." It relaxed, then, and this time it sank inescapably into the timeless black slumber of eternity. This time the thing that had once been Pierre Brunelle was truly dead.

Hours later, in the early, deepening April twilight, four tired men and an all but exhausted, amber-haired woman walked from the old Morehouse home and climbed into Police Commissioner Ethredge's big sedan. Doctor Ray, grown since morning incredibly aged and stooped, stood wearily in the portico and watched them go.

Just before the motor purred into life Ethredge said, significantly, "That pseudo-butler'll keep quiet. He knows that, even if he talked about this, he wouldn't be believed. And in any case he's afraid we might revoke his parole.

He's glad enough we sent him packing with his salary and his freedom and a gentle hint—"

"Yes." Cassidy sighed explosively. "Lord!; we did a powerful lot of work doping those girls and spreading them all over the city in hotel rooms. Traf-farn did the right thing, though—putting a hundred dollar bill in each one's handbag. They'll never learn where he took them—he was cagey enough to make sure that the car curtains were drawn when he brought them to Buena Vista." He paused, then added thoughtfully, "Say, what *was* he up to, anyway?"

Ethredge's face was expressionless. "Some new electrical beautifying process—" he said carelessly.

"They *were* beautiful," Mary said softly.

The car wheeled down the driveway, passed through the open gate to the macadam road. Ethredge knew, without looking back, that Doctor Ray was still standing there, watching them go. And he did not speak, for he was thinking of those strangely altered, strangely beautified girls, wondering how the, to them inexplicable, change that had come over them would affect their lives, wondering to what uses they would put their unaccountable new charm, their newly deepened intelligence.

Perhaps for them, perhaps for everyone, it would all turn out for the best.

"But I can't understand," Cassidy stubbornly persisted, "why *Peters*—! And why did we smash all the equipment? It doesn't make sense—"

Ethredge laughed; a dry, wary chuckle. "Peters was snooping, on my instigation—and got caught. And Doctor Ray decided to destroy the—equipment because he was dissatisfied with its performance—"

Cassidy was silent for a little while, thinking. The car had almost reached

Buena Vista. Then, in a perfectly matter-of-fact tone, he added, "I understand, Commissioner. *A pity, isn't it, that that thing he shot had to get out of hand?*"

Ethredge knew then that Cassidy knew, as Peters certainly knew, as perhaps even old Captain Donaghue of the Buena Vista Police vaguely suspected. But no one of them would ever mention this again. The case was solved, the file closed, and in the backs of these men's minds it would remain, shadowy and bizarre, horrible and unspoken, to their dying days.

Very quietly Ethredge answered, and his words were like the gentle closing of a book, "Yes, it's a pity. But it's over now, and tomorrow the thing will be buried. Next week Doctor Ray's sister is coming down from Massachusetts to live with him—to keep him from brooding too much. So, Cassidy, it's all over

—now."

The car turned off the macadam into Buena Vista's Main Street. Directly ahead, two blocks down the elm-lined, quiet thoroughfare, Ethredge saw the burnt-umber Police Station, his immediate destination. For Captain Donaghue would get out here, also Cassidy, who had driven to Buena Vista in his own car. Only Mary and himself would remain.

"Thank God," Ethredge said fervently to Mary, as he drove slowly down the brief and peaceful street. "Thank God you called Cassidy before you followed me to Doctor Ray's. Thank God that, in your anxiety, you set the time for eleven o'clock—instead of twelve—"

His sinewy hand reached out and grasped her small warm fist. Her fingers opened, intertwined with his own, and clasped them tightly.

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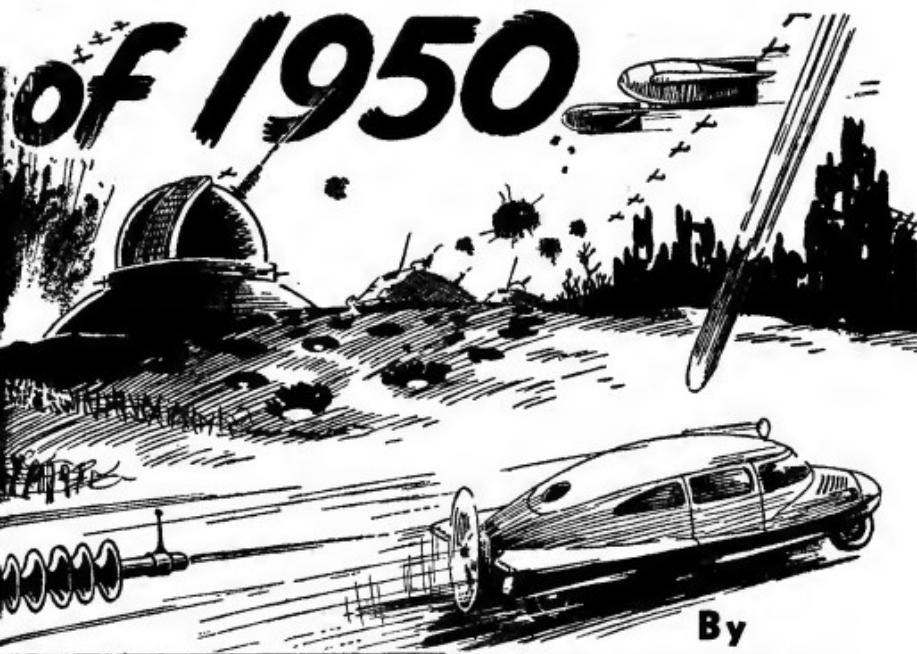
THE MAGAZINE
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Revolution



Robert Fugua

Adams drove the car roaring and shrieking into No-man's land



What has gone before:

JACK ADAMS is a spy in the White House. He is a member of a conspiracy to rid the country of its undemocratic president, STEEL JEFFERS. Others of his compatriots are SIMEON BALDWIN, who believes the Dictator's sister, HELEN, still lives; GODFREY, his chief contact with the conspirators; LIAM LINCOLN, who accuses him of being friendly to Jeffers; GIESEPPE, peanut vendor stationed outside the White House, and NORDSTRUM, a chemist. Adams soon discovers his worst enemies are Secretary of State JAMES DOUGHERTY and DR. VIERECKE, Austrian hormone specialist. Adams believes Jeffers is continually drugged by some new drug invented by ADMIRAL SOUTHWORTH. His destruction of the contents of several small bottles causes extreme consternation. When Southworth is injured in a plane crash, Jeffers becomes ill and cannot be seen. The country becomes unrestful during his absence and Senator BRIDGES and Governor CARTER lead a political rebellion. Adams sees a girl leave the White House, and recognizes Helen. But it turns out to be Jeffers in disguise. Southworth's recovery brings the President back to his normal drugged ruthlessness and a purge follows. Bridges and Carter are mysteriously assassinated. Spying once more, Adams sees Vierecke kill Southworth, and in turn kills Vierecke. Dougherty tries to kill Jeffers but Adams shoots him down. Jeffers asks Adams for the truth. Adams realizes that now is his chance to strike a supreme blow for liberty by killing Jeffers. He tells Jeffers he killed Vierecke and destroyed all the drug. Captured from behind, Adams is held for public execution by Jeffers.

By
**STANLEY G.
WEINBAUM**

Revolution sweeps the States as the mystery of the White House is solved

Second and Concluding Installment
CHAPTER IX

The Conspirators Strike

A DAMS soon saw that there was no use to struggle, and so he went peaceably. "Let's buy some peanuts," he proposed, as they reached the street.

"What!" exclaimed the Sergeant in charge, halting.

The old Italian on the corner shuffled up, with a couple of paper bags of nuts in his hand. "Peanuts, Meester?" But Adams shrugged his broad shoulders, and held up his manacled hands. "You see, Giuseppe, I can't buy. I'm a prisoner."

"Whata for, Signore Adams?"

As they dragged him away, Adams shouted, "For killing Southworth and

Vierecke and Dougherty. They're all dead, Giuseppe! All, all dead!"

"Shut up!" shouted the Sergeant, felling him with a blow from his automatic.

Adams awoke in a windowless unlit cell. His head ached terribly. For a while he sat in darkness, and nursed his throbbing head. Then a soldier came, and brought him some food, and turned on a light. "Well, fellow," said the man, "you certainly started something!"

"What do you mean?" Adams asked.

"Say!" the voluble soldier replied. "There's hell broke loose already, all over the country. Some crazy yap, who thinks he's Abraham Lincoln, has sent out a bunch of hooey, hollering for all patriots to rally to his standard, or some such rot. And are they rallying!"

"Well, I'll bite. Are they?"

"I'll say they are! Several Governors have seceded from the Union already, and it's funny—these were Governors who stayed loyal in the last ruckus."

Adams chuckled. He could have named the exact Governors. For they were men who had been in touch with the Washington group of conspirators, and so had had the sense to lay off until Liam Lincoln gave the word. Quite evidently Giuseppe had passed along the news of the triple killing, and the conspirators had at once sent out instructions that the time had come.

"Well, how are they making out?" Adams asked.

"Not so hot!" stoutly declared the soldier. "You just wait until Steel Jef-fers gets hold of 'em! He'll shoot 'em all against a wall!"

"How long was I unconscious?"

"You were out cold for about four hours."

"And all this has happened in that short time?"

"Yes."

"Phew! Lincoln certainly worked quickly!"

"Say," asserted the soldier suspiciously, "I'll bet you was in cahoots with that guy." He refused to talk any further, and left.

Adams was much surprised when, later in the day, the soldier returned, all eyes, and informed him that the Dictator wanted to see him. Manacled, he was led to the White House.

As he walked with his guards the short distance from the War Department to the executive mansion, he noted a marked overnight change in the city. No street cars were running. The streets were practically deserted, except for patrolling soldiers, and an occasional marching contingent of troops. And these troops were clad in khaki service uniforms, in place of the snappy peace-time black.

In the sky above, a dirigible putt-putted across the cloudless blue. Adams could hear in the distance the occasional crack of rifles, and the boom of cannons.

Sixty or so enlisted men lay on the White House lawn beside a row of neat stacks of rifles. Two armed guards marched back and forth across the front step. A khaki-clad figure on a motorcycle roared up the circular drive, delivered a dispatch to one of the sentries, and roared off again.

Indoors the White House was a strictly military headquarters. Gone were all the civilian attendants and clerks and stenographers. In their stead were khaki-clad members of the military, tense and precise.

Adams was taken direct to the Blue Room. Here again were guards. Soldiers rushed in and out with messages. And, seated at the large desk in the bay window beside the Dictator, was a leonine Army Officer with bushy gray

mustaches, and four silver stars on each shoulder. The two men were busily engaged in arranging pushpins on a map.

As Adams entered under guard, Jeffers looked up. To Adams's surprise, the Dictator appeared perfectly well—in fact, younger and in better health than when Adams had been taken to prison. But, looking more closely, Adams noticed that the Dictator's cheeks had a slightly feverish tinge, and that his eyes were unduly bright.

"Sorry I can't salute, Sir," said the prisoner. "But, with these contraptions on my wrists, it's a bit difficult."

Steel Jeffers laughed, but his face remained grave. "The usually immaculate Jack Adams seems to have slept in his uniform, and to have gone without shaving. I may have to get myself a new military aide." Then, to the Sergeant in charge of the squad, "Unlock him, and withdraw."

"But, Excellency—"

"Unlock him!"

"Yes, Excellency." The Sergeant removed Adams's handcuffs, and then marched his men out of the room. Adams promptly held up his arm in salute.

"General Peters," said Jeffers, "would you mind receiving your dispatches in the next room for a few minutes? And please give orders that I am not to be disturbed. I wish a few words alone with the prisoner."

The General stood up, gave a stiff Roman salute, and strode out.

As the doors closed behind him, the Dictator snapped, "Sit down, Lieutenant!" Adams took a chair across the desk from Steel Jeffers. The latter continued, "Did you know that your fanatical comrade Liam Lincoln has invited England and France to invade this country, to help suppress my Dictatorship?"

"I don't believe it, Sir," Adams levelly replied.

The Dictator's eyes narrowed, and the flush left his cheeks for a moment. "You wouldn't!" he crisply asserted. "But it's so. Why do you tie up with an erratic ass like Liam Lincoln? He hates you. The two of you have quarreled."

A look of startled surprise flashed into Adam's eyes.

Steel Jeffers smiled coldly. "A mere random guess of mine, but it struck home. Lincoln would double-cross you in a minute, to further his own ambitions. So why not side with me? I have the situation well in hand. The Regular Army is concentrating in Virginia, and the loyal Navy will soon be in the Chesapeake to clear the way for me to join the Army. Adams, I can offer you—"

"I'm sorry, Sir, but nothing you could offer, would interest me."

"No?" Watching him like a cat, the Dictator's eyes narrowed. An amused superior smile played upon his lips, as he studied his victim calculatingly. Then he purred, "Adams, I offer you —my sister Helen."

Adams flushed eagerly, stammered, then resolutely asserted, "Even that wouldn't tempt me!"

"I wonder" Jeffers seemed to be speaking to himself. "How can you admire *her*, yet hate *me* so much?"

"She had ideals—"

"And I had those same ideals. You and the rest of your gang of young radicals were once followers of mine. Why did you desert me?"

"It was *you* who deserted *us*, Sir. Secretary Dougherty made a fascist out of you."

Jeffers swung slowly around in his swivel chair, and stared moodily out through the big bay window. Then he turned slowly back again. "Secretary

Dougherty is dead, Adams," he said in a low voice.

"You mean—? That, if you succeed in putting down this rebellion, there will be no reprisals, no more frightfulness?" Adams felt himself weakening, hypnotized. "What do you wish me to do?"

The Dictator leaned forward, his eyes shining eagerly. "Give me back those bottles!" he demanded.

The spell was broken. Adams laughed grimly. "I poured every one of them down the sink," he explained. "You can find the bottles themselves in the ventilator shaft, to prove it."

The Dictator's face contorted with rage. He sprang to his feet, but instantly calmed as the door burst open, and General Peters rushed in, exclaiming, "Excellency, all is lost! The Virginia State troops have captured Fort Monroe, and have taken over the coast defense guns and the mine fields. The Navy can't get into the Chesapeake. We're bottled up here in Washington!"

"General," Jeffers sternly replied, "I told you that I did not wish to be interrupted."

Stunned and sputtering, the old warhorse withdrew.

Jeffers turned back to Adams, and passed a hand across his eyes with a weary gesture. "It's all over, Jack," he asserted. "What would you think of my abdicating?"

"It would avoid further bloodshed."

Steel Jeffers shook his head. "Not if I fall into the hands of Liam Lincoln, it wouldn't. And once he tasted my blood, other heads would fall by the hundreds. No. Help me to safety. Then, with me out of the picture, let General Peters negotiate for a general amnesty."

"Why should I do this for you?"

"You will not be doing it for *me*. It will be for America—and for Helen."

For Helen? Adams leaned forward

eagerly. Then clamped his jaw and shook his head. "Not for either you or Helen," he declared levelly, "but to put an end to the war. I may be making a terrible mistake, but—Well, what are your plans?"

"I want you to communicate with your fellow conspirators, and arrange for safe conduct for yourself and a girl through their lines. Then I shall disguise myself as a girl—you have already had proof of my abilities in that line—and you will take me in your car. I have friends who will protect me until the storm blows over."

"All right," Adams agreed. "I'll shave, and get my uniform pressed. Meanwhile you write me out a pass. Then I'll go to my own quarters, phone some of my pals, arrange for passes through their lines, and bring my car back here for you. Oh, and by the way, try to look less like your sister Helen than you did that time before."

"For the sake of your peace of mind?" Jeffers taunted him.

"Please don't joke!" begged Adams seriously. "No, it's for the sake of your own safety. The conspirators are all familiar with your sister's picture—Your name will be 'Mary Calvert'."

"Why not phone to your friends from here?"

"And have your Secret Service operatives listen in? No thanks. Besides I have to go home to get the car. I'll let you know, when everything is ready."

He arose, extended his arm in salute, and left the room. The Dictator's eyes were filled with a strange amused light, as they followed the Lieutenant's departure.

CHAPTER X

Escape

A HALF hour later, Lieutenant Adams left the White House, all shaved, cleaned, and pressed, with a

Presidential pass in his pocket. Giuseppe Albertino was at his peanut-stand at the corner, the only civilian in sight. Adams bought a bag of nuts, but left no message. If he were being watched or followed, as he half suspected, he had no intention of implicating this ally.

Steel Jeffers must have wondered why Adams should fear to be overheard if he telephoned from the executive mansion, and yet should not realize that it would be equally easy for the Secret Service to plug in on his home telephone.

Adams chuckled. He had a scheme to test the sincerity of the Dictator. He hoped—he believed—that Steel Jeffers was sincere; but the lives of all of his pals depended on Adams guessing right, and so he was determined to make no mistakes.

He was still turning his plans over in his mind as he unlocked and opened the front door of his P Street quarters. Then he halted on the threshold, and his jaw dropped.

Chairs overturned! Drawers pulled out, and their contents strewn on the floor! Books swept from the shelves! The dread Secret Service had made a thorough search; and, finding nothing, had turned spitefully devastating.

Finding nothing? There was nothing to find. Adams had carefully seen to that. And yet—. With sinking heart, he rushed to the basement.

Relief flooded over him. There was no sign that the secret hole in the brick wall had been disturbed. He swung the irregular section open. Cool musty air billowed out. It felt good to his hot cheeks.

Groping on a shelf just to the left inside, he found, also undisturbed, a small electrical contraption of coils and wires and dials and switches. Then, his confidence restored, he proceeded down the tunnel to the adjoining cellar of God-

frey Cabot. Cabot's house had *not* been ransacked.

Adams dashed upstairs, and called Simeon Baldwin's number on the phone. Then attached his bit of electrical apparatus. "Hello, S. B.," he said. "This is J. Q. A."

"Giuseppe reported that he saw you," replied the voice of his friend. "Say, you did a swell job bumping off Southworth and Vierecke and Dougherty! Is Liam Lincoln fit to be tied, for envy! But how come you are on the loose? We had authentic info that you were to be shot against a wall."

"I was. But Jeffers is pretending that he thinks I was falsely accused of the three murders. He has turned me loose in the hope that I'll lead his Secret Service men to your headquarters. But I've given them the slip, and am phoning from Godfrey Cabot's house, and using the tone-inverter, as you know. You can talk freely. Are you in touch with the Allied Governors?"

"Am I?" exclaimed Baldwin's voice. "Underground directional radio direct to Baltimore headquarters, with a tone-inverter at each end!"

"Then," said Adams, "you arrange with them to let me through the lines in my car—District 5656. I can put them in touch with one of the Federal Generals, who is ready and willing to throw the works."

"Who?" exclaimed Baldwin excitedly.

"Sorry, Sim, but this has to be arranged personally. I have given my word to the old General not to breathe a word to anyone but the Allied High Command in person."

"All right," agreed Baldwin a bit grumpily.

"And I want a special pass signed by you, identifying me and Mary Calvert."

"Who's she?"

"A girl friend. Lives at the Ward-

man Park Inn. Has relatives in Baltimore. I promised to get her out."

"Why, you old Lothario! I thought you were in love with that dead-and-gone Helen Jeffers."

"No time for humor," Adams snapped. "Mary Calvert is an old friend of the family. Send the pass over to Giuseppe, and tell him to vamoose as soon as he hands it to me. There'll be no need of his hanging around the White House any longer after I've skipped out."

"But how'll you get through the Federal lines?"

"Forge a pass from the Dictator. I know his signature and have access to his official stationery and seal."

"Fine. Good luck, Jack."

"Good luck, Sim."

Adams hung up, detached the tone-inverter, and carried it back to its niche in the secret tunnel. From his own house, he phoned Steel Jeffers, and told him that all was ready. Then he squared his broad shoulders, and smiled. "If I've been followed and plugged in on," he said to himself, "Steel Jeffers will know that I've met none of my pals, and have sent out no phone calls from my house; so he won't believe that I have arranged for a pass, and he will refuse to go with me. Accordingly, if he comes along, it will be a sign that he is on the level."

He was still smiling, as he changed into his gray Norfolk suit, thrust his forty-five into his left hand coat pocket, packed his bag, and drove his car to the White House. Parking by the servant's entrance, he entered, and made directly for the offices. Here he was handed a note from the Dictator, commanding him to report at once to the Presidential bedroom.

A totally strange girl, with curly yellow hair, let him in. She laughed at his open-mouthed amazement. Then

said in the Dictator's voice, "Well, Jack Adams, how do you like my blonde wig? Am I different enough to suit you?"

"I'll say you are, Sir! The car is waiting at the rear. And I've arranged for safe passage through the enemy lines. But what about your abdication?"

"While you were telephoning from your home, I made all the necessary arrangements with General Peters. As soon as I am safe, he will contact the enemy, and make the best peace possible."

"I intimated as much to my pals, when I phoned them," said Adams. "But I merely told them that someone high up in your organization was willing to betray the city into Allied hands, if they would give me a pass through the lines, to arrange it."

"Excellent!" laughed Steel Jeffers. There was a peculiar note in his laugh. Then, reaching for the phone, he called the Blue Room, and asked for General Peters. "General, this is Steel Jeffers. If you don't hear from me by three o'clock, you know what to do."

Returning the instrument to its cradle, the disguised Dictator said in a high-pitched feminine voice, "Well, Jack, I am ready. Here is a Presidential pass, made out to John Q. Adams and Mary Calvert."

"They'll never suspect you, Sir," Adams admiringly asserted, as he picked up the bags, and led the way out to his parked car.

Circling the White House, he stopped at the peanut-stand of old Giuseppe, and bought a large supply of the nuts.

"Is the Lieutenant leaving?" asked the grizzled Italian.

"Yes," Adams replied, "and, if you're depending on my trade for a living, you'd better give up your stand. I shan't be back for some time."

Driving north on 15th, to Scott Cir-

cle, Adams then cut east on Rhode Island Avenue. They hadn't gone more than a block or two, when they were halted by a squad of khaki-clad Federal soldiery. Adams flashed the pass which the Dictator had provided, and the soldiers let them through.

This was repeated every block or two. Their luck seemed too good. And gradually there came to the surface of Adam's mind a thought which had been struggling for recognition. Just why was the great Steel Jeffers cravenly fleeing for his life, disguised as a woman, and passing up the chance of using Lieutenant Adams as a decoy to trap the leaders of the conspiracy?

As Adams turned these thoughts over in his mind, the pretended girl beside him uneasily asked, "When do we contact your friends? Here we are almost at the outskirts of the city, and you haven't yet secured the pass which is to let us through the Allied lines."

Adams instinctively glanced up at the rear-view mirror, and saw a large black sedan following them.

"I'm going to chance it *without* an Allied pass," he brusquely replied.

Just then they were halted again. But this time, as Adams was about to hand over the paper which Jeffers had given him, Jeffers himself opened his handbag and drew forth another paper. A trick? A disclosure of their identity? Probably.

"None of that!" shouted Adams, suddenly stepping on the gas, and scattering the surprised soldiery, as the car shot ahead. A few shots sounded behind them, but Adams was out of range before the soldiers could recover from their astonishment sufficiently to take good aim.

"And now, girlie, hand me over that paper," said Adams, grabbing it with his right hand.

"Don't you call me 'girlie'!" raged

the deep tones of the Dictator.

"Tying to double-cross me, are you?" Adams raged back at him. Planning to have me lead your Secret Service to my pals? Well, I already have my pass, and am not going to my pals. You can't win, Steel Jeffers!"

He shifted the seized paper to his left hand, took the wheel with his right, and stuffed the paper into his pocket. A glance in the mirror showed him that the big black sedan had come right past the squad of soldiers without being challenged, and now was rapidly gaining on him. Adams pushed the accelerator down to the floorboard.

The Dictator reached suddenly beneath the hem of his skirt. From a knee-holster he drew a pearl-handled Luger .38. Raising the weapon, he cried, "I *can* win, Jack Adams!"

Adams' left hand came up like a flash from his coat pocket, grasping his Army .45. His right elbow shot out, throwing the Dictator off balance. The little Luger exploded harmlessly. Then Adams' gun crashed down on the blonde wig. Jeffers slumped in the seat.

Adams grinned wryly, as he returned his gun to his pocket. "I'd hate to have to hit a real girl." Then he gave the car everything it had, and sped down the road away from the pursuing sedan.

They were almost clear of the District, when a whole company of Federal soldiers, with drawn bayonets, loomed ahead, barring the road.

CHAPTER XI

Under Suspicion

ADAMS set his jaw, and his gray eyes became slits. Leaning on the horn, he stepped on the gas, and drove his car roaring and shrieking straight toward the Federal soldiers.

The soldiers parted in a mad scramble. He was through!

Adams bent low over the wheel, un-

hurt. Bullets splintered the rear window. One crashed through the windshield. Then came two loud explosions—both rear tires blown out. The car lurched and bumped drunkenly. It required all of Adams' strength on the wheel to hold it to its course. In a few moments the enemy sedan would overhaul him.

He glanced at the rear-view mirror, and saw the soldiers massed in the road behind him, loading and firing.

Then the big black pursuing sedan swung skiddingly around the group. Two startled soldiers stepped into its path. The sedan slid sidewise up onto the curb, ripping off two wheels, and rolled onto its side.

Adams brought his eyes back to the road just in time to see a lone soldier standing by the curb ahead, with gun raised to fire. Adams swung toward him, and sent him diving for the gutter. Then sped bumping on.

Ahead was open country. No more Federal soldiers. He was in no-man's land, between the two warring forces. Tanks lumbered about and shells crashed down all about.

Slowing down, he rearranged the Dictator's twisted blonde wig. Next he glanced through the note which Steel Jeffers had attempted to pass to the sentry. Adams smiled grimly at learning that this note identified "Mary Calvert" as an operative of the Secret Service, and himself as an enemy to be arrested on sight.

He tore the note into little bits and scattered them from the window of his car. "Treacherous as usual!" he mused. "And yet I wonder if Jeffers at the start planned to trick me. He seemed actually to weaken, to turn to me for help, when the old General burst into the room with the news that all was lost."

Adams reached into one of the bags of peanuts which he had purchased

from Giuseppe, and pulled out the pass which Sim Baldwin had provided for him.

Just in time! For a dozen soldiers in the uniform of the Maryland National Guard popped out of the bushes, and held up their hands for him to stop. He stopped, and showed them his Allied pass.

"Is there a medical detachment anywhere near?" he asked. "The last Federal who stopped us, got suspicious, and tried to stick me with his bayonet. I ducked, but the side of his rifle-barrel hit Miss Calvert, and knocked her cold."

The Dictator stirred and groaned.

"There's none closer than three miles," said the Sergeant of the soldiers sympathetically, looking in at the crumpled feminine figure, "and your car won't stand much more. But I tell you what. There's a State car down the road just a piece. I'll jump on your running-board, and tell the guy in charge to take you."

They bumped along for about a hundred yards to the State car. Adams lifted the Dictator into the rear seat of the new conveyance, and got in beside him. The military chauffeur in the front seat started the car.

And now what? The Allied surgeons would instantly discover that the disguised Dictator was a man. His identity would then become known. Death for him—and probably for John Q. Adams as well.

The Dictator began to stir into life. He groaned weakly.

Adams snatched out his forty-five, and thrust the muzzle against the back of the driver's head. "Sorry buddy," he said. "Draw up alongside the road." The startled soldier did so. "Now get out." The soldier got out, and Adams followed him.

Quickly Adams relieved him of his

gun. Then trussed him up with his belt and spiral leggins, gagged him, and carried him a short distance into the woods.

By the time that he returned to the car, the Dictator was sitting up and staring bewilderedly around. "Where —am—I?" he asked in a cracked voice.

"Get in front," Adams commanded, helping him to do so. Then starting up the car, Adams continued, "You're within the Allied lines, Jeffers. You tried to double-cross me, and I knocked you out."

"Well, what are you going to do with me? Turn me in?"

Adams pondered for a time before answering. Finally he said, "I suppose that I ought to, but somehow I can't. So I think I'll make you go through with your original proposal."

They drove on in silence, both of them thinking hard. Several times they were stopped by patrols of soldiers, but their official car and the pass from Sim Baldwin got them by.

It was nearly three o'clock when they drew up before the City Hall in Baltimore. "Miss Calvert," said Adams pointedly, "I can't trust you, but I'm going to give you a break. I shall have to take you into Allied Headquarters with me. But if you behave yourself, I shan't give you away."

Steel Jeffers agreed.

General Saltonstall of Massachusetts was in charge of the Allied forces. He received Adams immediately.

Adams instinctively extended his arm in the Roman salute. Then flushed guiltily, and brought the tips of his fingers smartly to his forehead.

General Saltonstall grinned, but otherwise ignored the mistake.

"Adams," he said, "I'm glad to meet you. You struck a splendid blow for liberty when you did away with those three scoundrels at the White House. Too bad you couldn't have got the

usurper too."

The pretended Mary Calvert made a wry face. Adams introduced the General to her. "Miss Calvert was knocked unconscious by one of the Federal soldiers," he explained, "as we were making our escape. She's still a bit shaky. Can she sit down over in a corner, where I can keep an eye on her, while we attend to our business?"

"My Staff Surgeon is—," Saltonstall began.

But Adams interrupted, "Our business will take only a minute, and then we'll go right to her folks. The kid's got a lot of courage. In spite of her weakness, she insisted on our coming here first."

With a smile of courteous appreciation, General Saltonstall held out his arm to the disguised Dictator and escorted him to a seat in one corner, while Adams watched the performance with an amused twinkle in his gray eyes.

Turning back to Adams, Saltonstall asked, "What do you propose?"

"Get me General Peters on the phone at Washington. He is expecting the call."

"General Peters?" exclaimed Saltonstall eagerly. "I can hardly believe it. Why, man, do you realize? If he will come over to our side, the war will be won!"

"Exactly." Adams glanced over to note the reaction of the disguised Dictator, and saw him bite his lip.

Saltonstall barked out a command. A line was speedily put through to Washington, for communication between the two cities had not been wholly cut off, merely subjected to censorship by both sides.

"General Peters," said Adams into the phone. "This is Lieutenant John Q. Adams, calling from Allied Headquarters in Baltimore."

There was a gasp on the other end of

the line.

"You don't believe it?" Adams continued. "Well, I can prove it. I was with the Dictator when he phoned you from his bedroom at half past twelve today. He instructed you to do something at three. I don't know what he meant, but I do know that he tried to double-cross me. However, he didn't succeed. He is now a prisoner in the hands of the Allies."

"I don't believe it!" declared the voice of the old war-horse; but he sounded hopeful, rather than dismayed.

"I can prove it," asserted Adams. "Call the White House. Ask them if they have seen Steel Jeffers since noon."

"Is he really a prisoner?" Saltonstall interrupted, his eyes shining.

The supposed Mary Calvert sat suddenly intensely erect. Adams placed his hand over the transmitter and said, "No! But I threw him off my trail. Evidently he hasn't yet got in touch with General Peters; and if he doesn't do so within the next few minutes, it will be too late to save the Dictatorship." Then into the phone again, "I give you the word of the Allied High Command that Steel Jeffers will not be harmed, if you will at once make peace." Adams glanced at Mary Calvert, and saw her smile and relax.

"I'll call you back, as soon as I check up the White House," said the voice of the Federal General.

While they waited for the return call, Saltonstall and his Staff conferred, and outlined the terms of peace.

Finally Peters called back, and was turned over to Saltonstall. All the Allied Generals were clustered around their Chief. Adams considered it the psychological moment to fade out of the picture, before anyone could think to ask him any embarrassing questions. So he beckoned to "Mary Calvert," and together they tiptoed from the room.

As he helped the disguised Dictator into the State car, he asked, "Have you really some friends who will hide you?"

"Yes," said Steel Jeffers in feminine tones. "In the mountains north of here, just across the Pennsylvania border. Keep right along east on this street, and turn north on Greenmount Avenue."

"Good!" said Adams, and soon they were speeding northward on the old York Road.

"Just think," mused Steel Jeffers, "I'm no longer Dictator, and somehow I prefer it this way."

He seemed younger, less careworn, than Adams had ever known him; but it was hard to tell, under his feminine disguise, how much was genuine, and how much was theatrical pose.

They drove on for a couple of hours in silence.

Suddenly Adams remarked, "You know, we never ate those peanuts. I left them behind in my car."

"Let's stop for a bite in this coffee-shop," suggested Jeffers, and soon they were seated at the counter.

The radio was playing a stirring march. Adams straightened his broad shoulders, and a wistful light crept into his companion's cold purple eyes.

The music hushed slightly, and a voice announced, "This is the Federal Radio Control. The Allied troops are just marching down Pennsylvania Avenue, with Vice President—er, *President* now—Nieman at their head: Oh, what a day! What a day!—"

Jeffers shuddered.

"Please turn it off!" snapped Adams. "The lady would like something lighter."

Surprised, the proprietor switched on some dance music. "You two ain't pro-Dictator, be you?" he asked suspiciously.

Adams smiled whimsically, and shook his head.

For a while they ate in silence. Some advertising matter obtruded itself on the program, and the proprietor twirled the dials to another station. "—radio newscast. Liam Lincoln, leader of the Young Patriots, says that he now has positive proof that Lieutenant Adams, supposed hero, is a traitor; and that the supposed woman whom he brought through the Allied lines as 'Mary Calvert' is really Dictator Jeffers—*ex-Dictator Jeffers*, we should say—in disguise."

Without waiting to hear more, Adams hurriedly paid the bill, and piloted his companion out to their waiting car.

A gray-shirted member of the Pennsylvania constabulary, with his motorcycle drawn up on the curb, and a broad smile on his tanned face, was leaning against the front door of the car.

"Well, well!" he announced. "Stolen car, and Mary Calvert, and little Jack Adams, and everything."

Adams gasped, and his hunted eyes swept rapidly around for means of escape.

"Why, officer," he said, "I don't know what you're talking about." His right fist suddenly flashed out squarely to the trooper's chin, knocking him back against the car. Then Adams' left fist swung, and caught the man on the ear, sweeping him off the car onto the sidewalk. "Quick!" Adams shouted.

In an instant, he and Jeffers were in the car, streaking down the road.

A sharp crack sounded behind them. Something seared the side of Adams' head. Everything went black, and his hands dropped from the wheel.

CHAPTER XII

Helen

ADAMS, in a daze, felt strong capable hands reach across him, and seize the wheel. Nausea and unconsciousness swept over him in waves. He

slumped down in a heap. Then oblivion.

Ages later he came half awake again. It was night. Starlight. The cool windiness of high places.

The car stopped. Voices: "Uncle Eph." "Aunt Martha." "Steel, lad." "Helen." That name cut through the fog of his delirium. "Helen!"

Strong raw-boned male arms were carrying him. Into a house. Up some stairs. Onto a bed. Then capable feminine fingers loosened his clothing, and tucked him in. Receding footsteps. Silence.

Many days of illness, fever, delirium. Recurrent dreams of a mad flight from state troopers.

And then, one afternoon, Jack Adams awoke as from a deep sleep, and looked around him. He was lying in an old-fashioned high-post bed in a tiny room. On him was a patchwork quilt, covered by a tufted spread of homespun linen. Straw-matting on the floor. Quaint old furniture all around.

Very gingerly he pushed down the covers, and swung his long legs out of the bed. Shakily he walked to the window. Rolling tree-clad hills, bathed in sunlight, stretched away beneath his view. Where was he, anyhow? He went to the door of the room, and called down the stairs, not too loudly, "Hi, there!"

No one answered. He opened the door to a closet, found his clothes, and put them on. Then he essayed to descend the stairs.

In the living-room he found a radio, turned it on, and sank exhausted into a chair. As the tubes warmed up, he caught, "—and if this alleged hero had been sincere, would he not have turned Steel Jeffers over to the Allied Generals? Would he have fled with the Dictator in a stolen car belonging to the State of Maryland? Would he have kept in hiding? Only traitors hide, my

friends. Patriots do not fear the light of day."

Loud handclapping. Then, in another voice, "You have just been listening to the Federal Radio Control's debate on the subject: 'Was Lieutenant Adams a patriot or traitor?' And now for a news flash. The secret hide-out of Steel Jeffers has been found. Troops have surrounded it, and are closing in. This is the F. R. C. network."

Adams gasped. Surrounded even now? Closing in? With sudden resolution, he forced his fever-weakened body to stand. He must find and warn Steel Jeffers!

"Why, what are you doing downstairs?" asked a sweet feminine voice, filled with concern.

Adams wheeled. A young girl in a print dress and sunbonnet stood in the doorway. Her cheeks were smooth and unrouged. Her figure was delicately rounded. She took off her sunbonnet, and a wealth of brown curls fell about her high forehead.

"You are Helen Jeffers?" he breathed.

"Of course!" she exclaimed. "Who else?"

Helen! Alive and real! Helen Jeffers, as her brother Steel had promised him!

But even in his joy at finding her at last, he did not forget the ominous news which he had just heard over the air. "Where is your brother? I just got a news flash that the troops are closing in on us."

"My brother Steel?—Steel is dead,"

* Ruzicka and Wettstein in 1935 succeeded in synthesizing the male secondary hormone, testosterone, from cholesterol. See Tice's loose-leaf encyclopedia, "The Practice of Medicine," vol. VIII, pp. 351 and 357.

Deansley and Parks in 1937 made the remarkable discovery that various testosterone derivatives act entirely differently from each other, not only in degree but also in kind. Some accentuate male characteristics; and others, strange to say,

she replied with a touch of sadness.

Adams sobered. "Did that State Trooper get him?"

"No, Jack." Smiling sweetly, she stepped forward and placed her hands in his. "Let's talk of other things, for Steel is safe from his enemies."

"But, Helen! Here we are talking together as though we had known each other for years. And yet I've never met you. Never even seen you. Fell in love with your photograph. Did Steel tell you—?"

Helen Jeffers smiled whimsically. "We *have* known each other a long time, for *I* was the Dictator."

"You!" Adams stared blankly.

"Yes, my brother Steel died on election-day six years ago. He and James Dougherty and I had pledged ourselves to put through our program at any cost. I closely resembled my brother. And so James Dougherty conceived the fantastic idea of turning me into a man. We reported that it was I who had died. Then I retired to a shack in the mountains; and there two biological experts, Admiral Southworth and Franz Vierecke, injected a certain derivative of the hormone testosterone into my veins—**"

"So that is what the letters 'T-E-S-T—' meant on the little bottles!" Adams exclaimed.

The girl nodded, and continued, "This hormone made me to all outward appearances a man, and even made me ruthless."

"I see," said Adams grimly, drawing away from her.

accentuate female characteristics, although this is a male hormone. Others accentuate either, according to the sex of the patient. See "Comparison of Testosterone Derivatives," *Biochemical Journal*, July, 1937, p. 1161.

It is only a matter of time before the accomplishments of Southworth and Vierecke in the story will be duplicated in real life, perhaps by Drs. Vest and Howard, who are already working on the problem at Johns Hopkins.—Ed.

"Don't blame me too much," she begged. "I did it all for the Cause to which my brother had been pledged, not foreseeing where dictatorship and the unprincipled ambition of my Secretary of State would lead me. Well, anyway, Franz Vierecke had worked with the great Ruzicka, when the latter discovered how to produce testosterone synthetically out of cholesterol."

"But, if the method was known," Adams interrupted, "then why all the mystery?"

"If the White House had bought large quantities of testosterone, our secret might have been suspected. Furthermore, different derivatives react differently, some even have the opposite effect from the effect which we wished. I myself discovered this to my horror, when doing some frantic experimentation on my own hook, during Admiral Southworth's illness. So, the secret died with the Admiral and Vierecke, and my masquerade was at an end. Fortunately the sinister Dougherty did not long outlive them. Then I struggled on alone, a woman again, double-crossing even you, my only friend." Her eyes fell.

Adams tried to hate her, but he could not. She had been no more to blame for it all than Trilby had been when under the spell of Svengali.

"You poor girl!" he breathed, taking her in his arms. He kissed her as she clung close to him. Then gently he released her.

An hour or so later, after he had met Uncle Eph and Aunt Martha, and had had a shave, he and Helen sat hand in hand on the front piazza of the little farmhouse, gazing off over the beautiful rolling mountain view. And waiting, silently waiting, for what they knew was closing in on them.

Finally a cavalcade of cars drew up on the highway in front. Out of the

front car leaped the fanatic Liam Lincoln, his black hair awry, his dark eyes flashing. "There's the traitor!" Lincoln shouted, pointing a skinny finger at Adams. "Seize him."

State soldiers poured out of the other cars, and cautiously approached the piazza. Also roly-poly Sim Baldwin, tall Phil Nordstrom, chunky Godfrey Cabot, and others of Adams' old crowd. Even Giuseppe Albertino, the peanut man.

Studiously ignoring Lincoln's inflamed words, Adams casually remarked, "Hello, fellows! Meet my fiancee, the girl whom I called 'Mary Calvert'. Her real name is Helen Jeffers." Adams chuckled. "I told you fellows that I'd get her in the end. And doesn't this explain a lot of things, Liam, which were puzzling you? For example, why the Dictator gave her and me a pass out of Washington, and why I was so anxious to keep her identity a secret, until peace was concluded."

Several of Adams' pals laughed—a nervous relieved laugh.

Lincoln angrily thrust back his black forelock. "That's all very well, but why did you steal the State car, and assault that trooper? You threw us off the trail for days and days!"

"Well, you see, Liam, I didn't want to risk having a fanatic such as you butting in on my honeymoon."

More laughter.

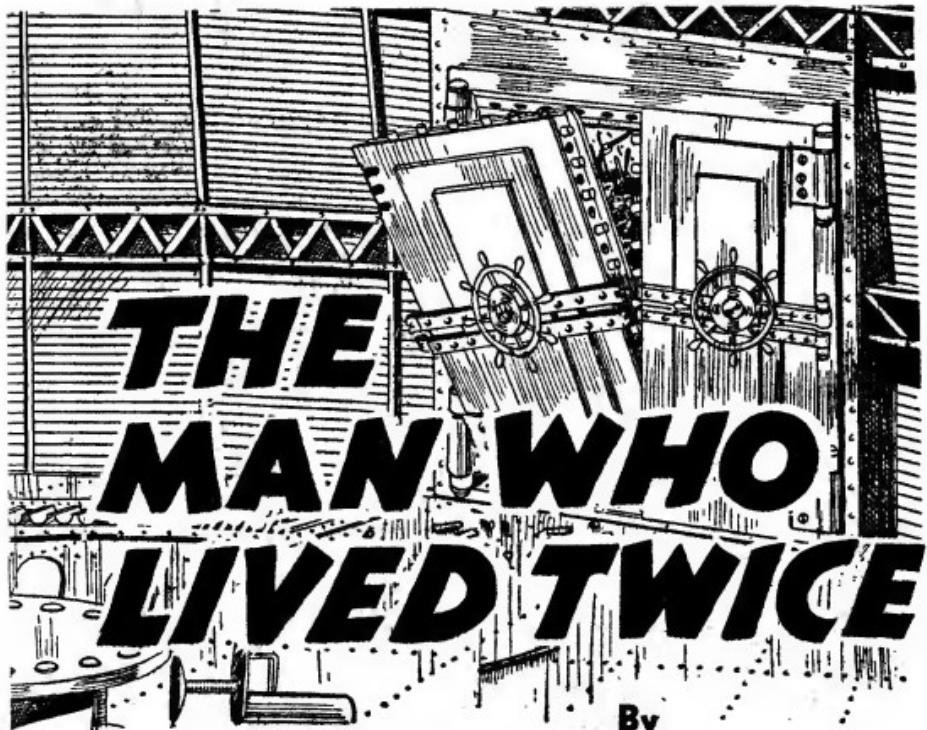
Liam Lincoln's prestige was rapidly slipping. He made one last attempt to regain it. "Where is the Dictator?" he demanded.

Adams shrugged his broad shoulders. "How should I know?" he replied. "I can truthfully say that I haven't seen or heard from Steel Jeffers since his sister Helen and I left the White House together on the day the Dictatorship ended."

THE END



Riley brought his gun butt down on the man's head



THE MAN WHO LIVED TWICE

By

EDMOND HAMILTON

Down and out, Nick Riley answered an ad for a chauffeur, and found himself trapped on an operating table. Awakening once more, he found his brain in the head of the Airlord of Amer

CHAPTER I

A Strange Experiment

NICK RILEY hadn't had any breakfast, he had just spent his last dime, and if he wasn't lucky he would have to walk thirty miles back to New York. Yet there was a carefree grin on his devil-may-care young face, and he was whistling cheerfully as he strode up the sunlit drive and onto the porch of the isolated old Long Island house.

His knock on the front door was answered by a tall, impatient man of

forty, with a colorless intellectual face and cold black eyes.

"You're Doctor James Brant?" Riley asked. He named himself. "I saw your advertisement for a chauffeur."

Doctor Brant thoughtfully eyed the lean, shabby young man. "You're down and out, eh? No family?"

"No family and no job," Riley replied cheerfully. "You can call me a soldier of fortune, mister."

"Come on in," the scientist said. "I think I can use you."

He motioned Riley to precede him down a dim, paneled hall. The young

man stepped into a white-tiled laboratory illuminated by bright electrics. Upon benches and tables was a bewildering array of scientific apparatus.

Suddenly a stunning blow crashed on his head from behind. He sank nervelessly to the floor.

When his brain cleared, he found himself lying on an operating table, held down by steel fetters. Doctor Brant was wheeling an anaesthetic apparatus toward him.

"What the devil does this mean?" Riley wrenched futilely to free himself.

"I'll explain," said the scientist coolly.

He went to a table and brought back a square, glass jar filled with thick, clear liquid. In the liquid floated a small, gray, wrinkled mass.

"Do you know what this is?" Brant asked. "It is the brain of a dog—and it is living. It has lived in this jar of serum for nearly a year."

"Why, that's impossible!" Riley exclaimed, astonishment momentarily overcoming his anger.

"Nothing of the sort," Brant smiled. "I have mastered the art of keeping living tissues and organs alive in serum."^{*}

"What are your serums to me?" Riley cried. "I want to know why you knocked me out and tied me on this table."

"I've succeeded," Brant continued calmly, "in keeping animal brains living in serum. I think it can be done with a human brain. If so, it will mean an immense addition to medical and scientific knowledge."

Riley's hair bristled on his scalp. "You surely don't mean that you intend to—"

* Doctor Alexis Carrel of Rockefeller Institute, the greatest living authority on tissue culture, has kept a sliver of chicken heart living in serum for years. He has done the same with other animal organs and tissues.—ED.

"You've guessed it, Riley," said Brant coolly. "The only way I can get a healthy, living human brain for the experiment is to take it from some living person. My advertisement was designed to bring such a person to me.

"You'll never be missed by the world, and you're of no particular value to the world. In this way, you will help a tremendous scientific achievement. It will be quite painless—you will go to sleep on this table and never wake up. Your brain will live on in the serum, unconscious, of course."

Riley could not believe his ears as he heard those calm, ghastly words.

"You're crazy as a hoot-owl!" he exclaimed. "Just because you've got some crack-brain idea for an experiment, you'd commit murder!"

"I realize," Brant admitted, "that according to human ethics, I am committing a terrible crime. But I have no particular reverence for human ethics. I am willing to incur any possible guilt, for the sake of science."

He wheeled toward the operating table another table on which were racks of glittering surgical instruments, and a large glass jar of colorless liquid.

Riley stared incredulously at the jar. He realized for the first time that if the scientist could actually do the thing, his brain would live indefinitely in that jar. He strained his muscles until they cracked, until his face was crimson with exertion, but the steel fetters held.

The scientist turned a valve, then raised the rubber mouthpiece of the anaesthetic apparatus. He paused, holding it over Riley's head.

"I'm sorry for you, Riley," he said, a ring of sincerity in his voice. "I wish I didn't have to do it. But the cause of science comes before all sentiment."

"Damn you, if I had my hands on your throat just one minute!" Riley cried furiously.

He threshed and twisted his head aside as the rubber mouthpiece descended on his mouth and nose.

But Brant held it firmly down on his face. He tried to hold his breath. But in a moment his tortured lungs opened despite him. He gulped in sweetish gas—and sank rapidly into a whirling green darkness.

CHAPTER II

A Weird Awakening

RILEY awoke slowly, his first sensation that of a throbbing headache. He lay, too dazed to open his eyes, trying to remember where he was. Then he remembered. Brant and his ghastly experiment! It must have been interrupted, he thought thankfully, or he wouldn't be waking now.

He opened his eyes. At once he saw that he was no longer in Brant's laboratory. This was a large, strange room with curving walls of cool, silvery metal. Sunset light from high windows shimmered off graceful metal furniture.

He sat up bewilderedly on the metal couch on which he had been lying. In the wall opposite him was a tall mirror. He stared into it at his reflection, and then from him burst a hoarse cry of horror. The man in the mirror wasn't himself, wasn't Nick Riley at all.

A stalwart, brawny-shouldered man of thirty with a dark, strong, ruthless face, close-cropped black hair and hard black eyes, dressed in a tight black uniform—that was how he looked in the mirror. By some devil's magic, he was now in another man's body.

"God!" he cried hoarsely. "What's happened to me? I'm not myself any more—"

"Calm yourself, highness," said a soothing voice behind him in English. "I will explain everything."

Riley whirled. Beside him stood a

small, elderly man with a smooth, cunning face and sly eyes, dressed in a black uniform like that which Riley wore.

"Who are you?" Riley demanded wildly. "And who am I?"

"You are Jan Strang, First Airlord of Amer in this year 2242," said the other hurriedly. "I am Garr Allan, your Chief Councillor."

"2242?" husked Riley stupefiedly. "You mean—I'm three hundred years in the future?"

Garr Allan nodded quickly. "Yes, three centuries ago your brain was removed from your body by a scientist of your own era. Your brain has lived in serum ever since, preserved by a museum as a scientific curiosity. Today, I had your brain put into the skull of Jan Strang, whose brain had been destroyed though the rest of his body was unharmed."

Riley stared dazedly into the mirror at his new, stalwart body and ruthless dark face.

"You said I'm Jan Strang, First Airlord of Amer?" he repeated thickly. "What does that mean?"

"It means," replied the crafty-eyed little man, "that you are supreme ruler of the Airlords of Amer, our race who dominate the great continent once called America."

Riley gasped. He, Nick Riley, down and out soldier of fortune, catapulted by Brant's mad experiment across three hundred years, into the rulership of half the world!

Garr Allan led him to one of the windows. The fox-faced Councillor told him, "This building is your palace—and outside lies N'Yor, our capital city."

Stricken dumb with amazement, Riley looked out of the window. He had never seen such a city.

Its buildings were truncated, ter-

raced pyramids that rose out of beautiful gardens of green trees and banked flowers. The pyramidal buildings were not crowded together but separated widely by the blossoming gardens. The building in whose ground floor he was, was one of the largest of all.

He noticed a slender, soaring white tower that rose out of a great park a mile away. Sleek, silver-winged airplanes were hovering above it, and other swarms of planes buzzed like flocks of shining swallows over the city.

"What's that white tower?" he demanded.

"It is the center of our power," smiled Garr Allan. "Without it, my race could not rule Amer. It is the great Power Tower from which power is broadcast to our airplanes in all eastern Amer. A similar tower at Losang serves the west."

"Radio transmission of power?" Riley asked startledly. "That's what drives all those planes—power broadcast from that tower?"

Garr Allan nodded. "Exactly. Even in your day, I believe, engineers were trying to achieve radio transmission of power. My race achieved it two centuries ago.

"We were a small European nation, then. But because of the immense weapon given us by our discovery of radio power, our air fleets could stay aloft unceasingly. We attacked this rich continent of Amer—and conquered it."

"You conquered the American people?" Riley exclaimed incredulously. "They'd never have surrendered!"

"They have never surrendered completely," Garr Allan admitted. "Their descendants still resist our rule and live in crude subterranean cities which they excavated deep inside earth at the time of the great air war. These Groundlings, as we call them, live a barbaric, half-buried existence under earth's sur-

face, maintaining their defiance to us Airlords.

"But of course, their attempts to overthrow us are never successful. With our radio-powered aircraft, we dominate the surface completely. Every time the Groundlings emerge and attack our cities, our planes easily beat them back."

"Why don't the Groundlings build planes of their own and use your broadcast power?" Nick demanded.

"That is impossible," Garr Allan assured him. "They do not have the secret of the power-receiver embodied in our ships. And each of our ships is so constructed that in case it should be captured, it will explode if they try to dissemble and study it."

Nick Riley's anger fired at the picture the crafty Councillor had drawn. A picture of his own race, the descendants of Americans of his own day, forced to dwell under earth's surface, while the foreign, conquering Airlords dominated the surface with their radio-powered planes.

In him rose a sudden fierce determination to fight against the rule of these arrogant Airlords, to help the Groundlings, his own race, win their freedom. Then he suddenly remembered he himself was now chief of the hated Airlords!

"Why in the world was my brain put into the body of Jan Strang, your First Airlord?" he cried.

"It was necessary to my plans," shrugged Garr Allan. "Today a Groundling girl slave here tried to assassinate Jan Strang. The bolt of her electric pistol pierced his skull, destroyed his brain. Jan Strang was dead—that meant that Stirb Ikim, the Second Airlord, would inherit the rulership and I would lose my powerful position as Chief Councillor."

"I determined somehow to revive Jan

Strang to life, to save my own position. His body was undamaged—only his brain was destroyed. I remembered the living brain in serum, in our scientific museum here. So I had my physicians, under oath of secrecy, bring that brain here and put it into Jan Strang's skull. Our medical science is so advanced that the operation was easy, and our therapeutic knowledge is such that the incisions could be healed over in an hour. No one will know you are not really Jan Strang, if you do as I say, and I will remain in power."

CHAPTER III

A False Airlord

BEFORE Nick Riley could answer, a liveried servant ran hastily into the room.

"Master!" he cried to Garr Allan. "Stirb Ikim and the nobles are coming here! He has told them Jan Strang is dead, and that he is now the rightful First Airlord."

The little Councillor's cunning face paled.

"Now you must play the part of Jan Strang well!" he told Nick tensely. "For if they discover this imposture, they will kill both of us."

The doors of the room flew open as he spoke. A crowd of dark-faced men in black uniforms burst in.

At their head was a thin-lipped, hatchet-faced man with agate eyes who was obviously Stirb Ikim.

"I say that Jan Strang was killed by that Groundling girl!" Stirb Ikim was exclaiming as they entered. "You shall see his body yourselves, and then according to law you must acclaim me First Airlord."

"Jan Strang is *not* dead!" shrilled Garr Allan to the entering throng. "Look, and see for yourselves!"

A confused cry of astonishment went

up from the nobles as they saw Riley standing, facing them.

"It is true—Jan Strang still lives!"

Riley saw Stirb Ikim's jaw drop in sheer surprise. Then the Second Airlord's face hardened.

"This is some impostor!" he cried to the nobles. "Can a dead man return to life? I tell you, I *saw* Jan Strang fall dead when the Groundling girl fired at him."

Doubt came upon the nobles' faces as they heard. Garr Allan whispered frantically to Riley.

"Assert yourself now or we are both lost!" whispered the little Councillor in an agony of fear.

Nick Riley sensed his peril. And he knew he had no choice but to carry on for the time being in the part into which he had been thrust. He had to be Jan Strang, First Airlord, or he wouldn't live long. And he was determined now to live—for a purpose.

That purpose was to smash the tyranny of these foreign Airlords over his own race! Somehow, he swore inwardly, he was going to do that. But he wouldn't live long enough to do that or anything else if he didn't play his part well now. A tingling excitement leaped through his blood.

"Nobles of Amer, have you lost your wits that you do not know Jan Strang when you see him?" he shouted loudly. "I was wounded by that girl assassin—but do I look dead?"

Stirb Ikim reached toward the stubby pistol at his belt. Riley saw it, and rasped to the man:

"Draw that gun, Stirb Ikim, and I'll take it from you and break your neck with my bare hands."

Stirb Ikim fearfully let his hand fall from his belt. And a great shout went up from the nobles.

"It is Jan Strang who speaks, indeed! Hail the First Airlord!"

Riley grinned inwardly at the thunderous cheer. It seemed that by luck he had acted just as the real Jan Strang would have done, and it had convinced them.

Stirb Ikim bowed with poorly assumed respect, hate still throbbing in his thin face.

"I beg your pardon, highness," he muttered. "I honestly thought you dead, or I would not have dared—"

"Save your excuses," Riley told him contemptuously. Flushing darkly, Stirb Ikim backed away.

Garr Allan whispered tensely.

"Dismiss them now—you have done well so far, but you may make a slip any moment."

Riley waved a big arm toward the doors. "You may go, nobles of Amer," he told them. "And next time see that you do not credit Stirb Ikim's assertions too quickly."

A roar of laughter went up at that. And Riley saw that Stirb Ikim's agate eyes were throbbing with fury as the Second Airlord backed out with the others.

Left alone with Garr Allan, he felt a little shaky, and drew a long breath of relief.

"By Heaven," he muttered. "We put it over—but it was a bad ten minutes."

"Stirb Ikim still suspects," said Garr Allan, his crafty face thoughtful. "He was present when that Groundling slave-girl Nirla attempted to kill you."

"Why the devil did the girl try to kill me, or rather, Jan Strang?"

The Councillor shrugged. "She hates you bitterly, like all the Groundlings in Amer. They consider Jan Strang their most implacable enemy, whom all would love to kill."

"Where's the girl now?"

"In the dungeons underneath the palace," Garr Allan told him. "She will

be executed in the morning."

Then the little Chief Councillor looked at Riley, his cunning eyes narrowed thoughtfully.

"You are Jan Strang now," he said. "You, a man or rather a brain from the past, are ruler of all Amer. You owe me gratitude for putting you into this powerful position. And I shall expect you to be grateful."

"I shall expect you," Garr Allan continued, "to leave the actual rule of Amer in my hands. So long as you do that, I will help you maintain your position."

"We'll talk it over again," Riley told him. "Right now, I'm feeling plenty shaky and tired."

"It is no wonder," smiled the little man. "You have come across three centuries. I shall leave you now to rest, and later tonight will return for our talk."

Riley watched the foxy little man leave, and a frown gathered on his face. If there was one thing he did not feel, it was any gratitude or obligation toward Garr Allan. The Councillor had only put his brain into Jan Strang's body to save his own position, and further his own scheming ends.

And now he, Nick Riley, was installed in this palace as chief of the Airlords of Amer, chief of the tyrants who had forced the American race into the earth. No wonder the Groundlings hated him so bitterly! No wonder that a girl slave of their race had done her best to kill him!

His jaw clamped with sudden decision. He was going to see that girl. For she, who was a Groundling herself, could tell him better than anyone else how he could best aid the Groundlings to overthrow the Airlords.

He strode out of the silvery room, through luxurious chambers in which a rosy glow of artificial light was softly

growing, as night fell outside. He came out into a broad corridor where a guard sprang to attention.

"Your orders, highness?" he inquired.

"Escort me to the dungeons in which the girl who tried to kill me is confined," he ordered curtly.

THE guard's dark face expressed understanding. "Yes, highness—shall I call your torturers, also?"

"No!" Riley flared, shocked to fury by the dark possibilities implied by the question. "Go ahead!"

Hastily, the guard led the way down the corridor. Riley strode after him, down little-used back stairways and halls, all glowing with rosy light, down into gloomy passages carved out of the living rock beneath the palace.

The guard stopped before the solid metal door of one of the rock-hewn rooms of this somber labyrinth.

"Here is the girl's cell, highness."

"Get me the key."

The soldier was back with it in a moment.

"Now return to your post," he rapped. The guard stared wonderingly, but obeyed.

Riley unlocked the door, and stepped into a rock cell softly lit by a single rosy bulb.

A girl who had been sitting on a metal bunk sprang erect as he entered. She shrank back, her face dead white, as she recognized him.

She was young and slim, the youthful beauty of her white limbs revealed by her short white silken robe. Her black hair fell in a soft, wavy mass to her shoulders, her dark eyes were wide with incredulous amazement.

"Jan Strang!" she whispered. "But I killed you—I saw you fall dead—"

THEN the incredulous surprise on her face was succeeded by bitter

disappointment and hate.

"So you were only wounded, tyrant! I was awaiting execution happily, thinking I had killed you."

Nirla's dark eyes were blazing, her breast heaving with emotion as she glared at him.

"If only I had killed you!" she repeated throbibly. "You, the chief of the Airlords who live in the sunlight while we Groundlings hide beneath the earth like animals! It was my dearest wish, from the time I was captured and brought to this palace as a slave, to kill Jan Strang. And I've failed!"

"Nirla, you *did* kill Jan Strang today," Riley told her emphatically. "I am not he—though my brain now inhabits his body."

"Do you expect me to believe that, tyrant?" Nirla exclaimed with bitter laughter.

"It's true!" Riley said desperately. Rapidly, he told her of his incredible awakening. "So you see, I'm not Jan Strang. I'm Nick Riley, an American of three centuries ago."

Doubt came into Nirla's frowning face.

"It's true," she whispered, "that I have heard of a living brain preserved in serum for generations in the museum. But why should Garr Allan put your brain in Jan Strang's body?"

"I've told you that Garr Allan was only seeking to preserve his own position," Riley said. With sudden inspiration, he added, "Look at the back of my skull. There ought to be a new scar there, if my story is true."

He turned his head. He heard Nirla bend close, felt her warm breath on his neck, then heard her gasp.

"There *is* a scar!" she exclaimed. "Then it is true!"

Her eyes were suddenly shining at him. "You are one of the great race who were our ancestors, the Americans

who were free men. You are not Jan Strang!"

"No, I'm not Jan Strang," Riley said rapidly. "I mean to smash the rule of these Airlords over your people, my people. And I've thought of a way in which their rule could be overthrown this very night—"

A cold, hard, triumphant voice from the door of the cell interrupted him.

"So you *are* an impostor, as I thought!" that voice exclaimed exultantly.

Riley spun around. The door had stealthily opened—and Stirb Ikim stood in its opening.

CHAPTER IV

Nirla's Mission

THERE was triumph in Stirb Ikim's thin-lipped face, baleful exultation in his agate eyes as he confronted Riley. He held an electric pistol in his hand.

"So this is the explanation of Jan Strang's strange revival from death!" he gloated. "I knew there was some imposture—that is why I trailed you when you came down here, and listened at the door. And well have I done, for now you and Garr Allan shall die for your deception, and I shall be rightful First Airlord of Amer."

"Not if I can help it," Riley rasped, and sprang for Stirb Ikim as he spoke.

The Second Airlord, engrossed in his gloating triumph, had not expected that wildcat spring. He fired his weapon—but an instant too late. The crackling blue bolt of electrical force from the weapon grazed Riley's head.

And then Stirb Ikim was borne to the floor by Riley's rush. The American wrested the pistol from his hand. And before Stirb Ikim could open his mouth to yell, Riley had thrust the unfamiliar weapon into the man's ribs.

"One peep out of you, and you'll die!" he rasped. "Get your hands up."

STIRB IKIM'S hatchet face was rag-ing as he raised his hands.

"You and Garr Allan will not get away with this imposture for long!" he said furiously.

Nirla clutched Riley's arm. "You were saying you had thought of a way by which the Airlords' rule could be overthrown this very night. What is that way?"

"How far are the nearest subter-ranean Groundling cities from this city N'Yor?" he asked her rapidly.

"Less than fifty miles. Why?"

"I want you to carry word to your people in them to come out with all their forces, and march toward N'Yor and attack here at midnight," he told her.

Nirla shook her head hopelessly. "They would not dare do that. The planes of the Airlords would swoop down on them before they reached N'Yor, and slaughter them all."

"But suppose none of the Airlords' planes can fly tonight? Suppose that Power Tower stops broadcasting power, and all the planes are grounded. Then would your people dare attack N'Yor?"

"They would, yes!" Nirla cried, dark eyes lighting. "Do you mean that you could stop the tower from broadcasting power tonight?"

"I think I can," Riley told her. "As Jan Strang, First Airlord, I can get inside that tower. Once inside, I'll stop the power-broadcast, or die trying."

"You traitor!" cried Stirb Ikim. "Plotting the overthrow of your own people—"

"They're not *my* people," Riley snapped. "I was thrust into the body of Jan Strang without being consulted. My people are the Groundlings, right-ful owners of this country."

But Nirla's excitement suddenly van-

ished, a baffled, frustrated look came into her soft face.

"It's impossible—how can I get out of N'Yor to my people?" she said. "I'd surely be discovered before I escaped this city."

"No, you're going in a plane," Riley told her. The inspiration had come to him a moment before.

She shook her head. "I cannot fly one. No Groundling can."

"Stirb Ikim can—and he's going to fly you to your people, Nirla," Riley rasped. "He'll do it or die—you can sit behind him with this pistol, all the way."

"I won't do it!" cried the Second Airlord. "I won't help you bring about the overthrow of my people."

"You'll do it, or die right here and now!" Riley told him, shoving the weapon into his ribs.

Stirb Ikim paled. At heart, he was a coward. And he proved it now.

"Even if I did do it," he said sullenly, "the Groundlings would kill me when they got hold of me."

"Nirla will make them spare your life," Riley promised. "It's your only chance to live!"

Stirb Ikim's eyes rolled helplessly, hate and fear contending in them. Riley's trigger finger tightened. The Second Airlord blanched.

"I'll—I'll do it," he gulped.

"I thought you would," Riley said grimly. "Now lead the way out of here to the nearest plane. Remember, if you try any tricks or if we're challenged, you'll get yours."

Ten minutes later, his gun still pressed into Stirb Ikim's back, they emerged from the great palace into the starlit lawns and gardens around it.

All around them, in the middle distance, towered the great pyramids of N'Yor, patterns of blinking lights, with many lighted planes coming and going

above them. A mile away soared the shining white spire of the Power Tower.

STIRB IKIM led across the palace gardens to a row of sleek-winged silver planes. He paused by one of them.

"This is my own plane," he muttered.

"Get in," Riley grated.

And as Stirb Ikim entered and took the pilot's seat, Riley handed Nirla the pistol.

"Keep this gun against his back, Nirla. If he tries any tricks, don't hesitate to kill him."

"I will," she promised. "And I will have the Groundlings gather every man and march to attack N'Yor at midnight, as you ask. But—"

There was an agonizing doubt in her clear, dark eyes upraised to his, a terrible fear.

"—but if you should fail," she told him, "if the power should not be turned off, then the planes of the Airlords will take the air to slaughter my people."

"Don't worry, the power *will* be turned off by midnight," Riley promised emphatically. "I know the fate of the Groundlings depends on it, and I won't fail."

Nirla impulsively raised her lips and pressed them warmly against his. Then she entered the cabin of the silver plane and closed the door.

Riley glimpsed her in there, holding her gun against Stirb Ikim's back, giving him orders. The electric motors of the plane whirred, it rose into the starlight, circled once, and then drove westward at high speed.

CHAPTER V

The Power Tower

RILEY watched, his heart thudding. Nirla should reach the subter-

ranean Groundling cities and get their forces on the march, in an hour. And if he fulfilled his part, this night would see the end of the Airlords' rule! He ought to be starting now for the Power Tower—

"Jan Strang, what are you doing out here?" cried an anxious voice.

He turned startled. Garr Allan, the little Councillor, was hastily approaching, followed by servants.

"What are you doing here?" Garr Allan repeated. "Don't you know that Stirb Ikim might try to murder you?"

"I just came out to look around," Riley answered lamely.

"You must return into the palace at once—it's not safe for you out here," Garr Allan declared.

Riley swore inwardly. He couldn't start for the Power Tower now—Garr Allan would suspect his motive. And he couldn't stun the Councillor, with his servants watching. He had to go with him, and get rid of him as soon as he could.

He went with Garr Allan back into his own spacious, softly-lit apartments. There the little Councillor broached what was on his mind.

"We must find some way to get rid of Stirb Ikim!" Garr Allan declared, his cunning face determined. "He suspects you are an impostor, and he is a danger to us."

Riley wasn't listening. His eyes were on a clock. Midnight was only a few hours away. He racked his brain for some way of getting away from Garr Allan, to the Power Tower.

"Why aren't you listening?" Garr Allan demanded, eyes narrowed. "What has happened to you?"

Riley was spared an answer. A soldier hastily entered the room and saluted.

"It has just been discovered that the Groundling girl, Nirla, who tried to kill

you has escaped!" he told Riley. "Her cell was found empty."

"Well, send out an alarm for her capture," Riley said with assumed indifference. "Why bother me about it?"

The soldier hesitated. "But since you went down to see her tonight, highness, I thought perhaps—"

"Get out and don't annoy me further about the matter until you've captured the girl!"

Hastily, the man withdrew. But a suspicious expression had come into Garr Allan's crafty eyes.

"You went down to see that girl?" he asked, frowning. "Why?"

"I just wanted to see what these Groundlings look like," Riley lied.

Garr Allan's face grew darker with suspicion.

"I don't believe you—I think you helped the girl escape," he snapped. "And if you did that—"

Sudden understanding and fear crossed his face. "If you did that, you're plotting something with the Groundlings against us Airlords! I might have known that you, a barbarian from the past, would hate us. But I'll not let you live to conspire any longer against us—I'll expose you as the impostor you are!"

And Garr Allan opened his mouth to yell for the guards. But Riley sprang, his hand clamping over the Councillor's mouth and stifling his cry.

"Remember, Garr Allan," Riley rasped, "if you expose me now, you expose your own trickery. You'll be condemned for that, yourself."

But Garr Allan continued to struggle frenziedly to open his mouth. Riley understood then that the little Councillor, trickster and schemer though he might be, would risk his own life to stop the conspiracy against his race.

Hastily, therefore, he bound and gagged the little man with strips torn

from the hangings. He looked at the clock. Midnight was nearer! No time to lose now! He searched the rooms until he found a rack of electric pistols, stuck one in his belt, and slid out a window into the dark gardens.

In fifteen minutes, he walked boldly up to the lighted entrance of the looming Power Tower. A closed, heavy metal door in the silver wall, it had muzzles of great electric guns projecting from around it, and a full company of soldiers on guard outside it.

"Stand back!" warned their officer as Riley approached. "You should know that no one is permitted to approach the Power Tower."

"Not even Jan Strang?" Riley asked loudly.

"The First Airlord!" exclaimed the officer. He bowed low. "Pardon, highness."

"You were but doing your duty," Riley approved gruffly. "Have the door opened."

THE officer hastened to a button in the wall, pressed it in a complicated signal. The huge slab of the metal metal door swung slowly inward, as great bolts were withdrawn.

Riley strode into a vast, brilliantly-lighted hall where colossal, unfamiliar generators droned. Two gray-clad technicians came toward him, as another closed the door.

"What orders, highness?" they asked.

"Shut off the broadcast of all power at once," Riley clipped.

They stared at him as though unable to believe their ears. Then they broke into a babble of protest.

"But highness, we can't do that! It would mean that all planes in eastern Amer, all the patrol fliers on which we depend for safety, would have to come to earth. Such an order has never been

given before!"

"I'm giving it now," Riley rasped. "I am First Airlord, am I not? I order you to obey."

Looking stunned, the chief technician bowed jerkily.

"Very well, highness," he stammered. "I will go at once to the switch room and give the order."

"I'll go with you," Riley said tightly.

He followed the chief technician down the vast hall toward a copper door. But at that moment, the sound of a shrill, screaming voice came from outside the tower.

"Open to me—Garr Allan! Treachery is going on inside!"

CHAPTER VI

Besieged

ONE of the technicians started toward the heavy door, to withdraw the bolts.

"Don't open it!" Riley rapped.

The technicians hesitated. Inwardly, Riley was cursing the chance that had permitted Garr Allan to escape his bonds. He should have killed the little Councillor!

"Open, I say!" Garr Allan screamed outside. "The man in there with you is not Jan Strang—he is an impostor who is about to betray us to the Groundlings!"

The chief technician, staring at Riley, went white. He tugged at his pistol.

"So that's why you ordered the power shut off!" he cried, his weapon flashing up.

Riley had already jerked out his own weapon. He aimed the unfamiliar weapon as he would have done an ordinary pistol, and pulled trigger as the other man cried out.

A bolt of crackling blue force shot from his pistol and hit the chief tech-

nician. He fell, but the other two gray-clad men were drawing their guns. The bolt from one of them scorched past Riley's arm as he shot swiftly. Both men tumbled in dead heaps. But his pistol's electric charge was exhausted.

There was a thunderous din at the outer door—Garr Allan and the guards outside were battering to break it in. He looked wildly around the vast hall. There were no other technicians in sight—apparently only a handful of men were needed to keep the jealously guarded Power Tower functioning.

Riley ran toward the copper door of the switch room. It opened as he approached—the technician in charge of it peered out startledly at the dead men in the hall.

"What has happened, highness?" the man cried as he recognized Jan Strang's figure. "Who is at the door?"

"They are rebels against my rule," Riley told him, thinking swiftly. "I had to kill these men."

He pushed the technician back into the switch room. It was a copper chamber whose curving walls bore a bewildering number of gigantic switch panels. These were the controls of the mighty flood of power that was broadcast from the tower to every plane of the Airlords in eastern Amer.

Riley shut and barred the copper door once he was inside, and then quickly ordered the bewildered technician:

"Shut off the power broadcast, at once!"

"But highness—" the man objected.

"It is necessary, to break the revolt against my rule!"

Hesitatingly, the man went to the panels. He hastily flipped giant switches and relays, one after another.

Riley heard the thunder at the outer door of the tower grow louder. They were using battering rams now.

"The power broadcast is all off—every plane in eastern Amer is now grounded!" the technician hurried up to report. "What now?"

"Now, we wait." He glanced at a clock—still nearly an hour to midnight!

The Groundling forces, he knew, must still be miles from N'Yor, even if Nirla had succeeded in getting through to her people. And if she hadn't—

The minutes fled by, and the battering at the outer door of the tower had become a deafening din. The clock showed a quarter hour to midnight when the outer door went down with a great clang.

Riley heard the besieging guards rush into the tower. In a moment they were battering against the copper door of the switchroom, Garr Allan urging them on.

"Highness—" faltered the technician.

"Turn on the power again, you inside!" shrieked Garr Allan from outside the copper door. "It is not Jan Strang in there with you but an impostor, a traitor!"

THE technician heard, his face went livid. He sprang back toward the switch panels.

Riley jumped after him, brought his gun butt down on the man's head. He sank in his tracks.

The copper door was now beginning to bend inward. The clangor of battering was thunderous in the switch room. They would be inside in a few moments.

Riley looked wildly around the room. If he could just wreck these switches somehow to keep the power off a little longer. But he had no tools, nothing but his bare hands.

The copper door bent further inward. He felt despair bitter in his soul. He had failed Nirla, had failed the Groundlings, the descendants of his own race. There was nothing left for him but to die fighting.

Bare hands against the thundering crowd who would rush in in another minute! He tossed his useless gun away, clenched his fists and stood with legs wide apart inside the sagging door, his face flaming the defiance he felt. He'd show them how a man of three centuries before could die!

A wild scream penetrated through the clangorous din outside the door.

"The Groundlings are attacking N'Yor! Their hordes are streaming into the city!"

The attack on the door was interrupted the next minute by a sudden crash of battle out there in the great hall of the Power Tower, a wild uproar of yelling voices.

Recklessly, Riley unbarred and opened the sagging copper door. The great hall of the tower was being invaded by a torrent of men, pale-faced, white-clad men who had electric guns, and even swords and spears for weapons, wild-eyed men who were with utter ferocity attacking the black-clad Airlords.

The Groundlings! Riley yelled with exultation. They had come at last, their attack had smashed into N'Yor, while the stopping of the power broadcast had grounded the planes of the Airlords. The descendants of American freemen were taking long-delayed vengeance on the conquerors of their land!

Groundling warriors who perceived Riley's black uniform ran toward him with weapons raised in menace.

"Stop!" cried a silvery, urgent voice.

Nirla came flying through the Groundling fighting-men, flung her arms around Riley.

"It is the man who saved us—the

American from the past who wears Jan Strang's body!" she cried to them.

And she clung to him, sobbing, "You did it! You shut the power off, and my people are sweeping all in N'Yor before them."

The Groundlings had killed every Airlord in the tower. Riley and Nirla hurried out with the warriors into the night.

In the darkness, great N'Yor had become a hell of battle and death. Thousands of Groundlings were streaming through the city, hunting down the Airlords who fled in panic or turned vainly to fight. Blue electric flashes starred the darkness.

But the Airlords were already overwhelmed. Without the myriad planes on which they had always counted for safety, they could not oppose the hordes of vengeance - mad Groundlings who were taking toll for two centuries of oppression. Already all organized resistance of the Airlords was shattered.

A tremendous throng of Groundling fighters gathered around Riley and Nirla, and shouted themselves hoarse.

"We've won!" he cried to the girl. "Now we hold power over all eastern Amer. And we can use all these planes now, powered by this tower, to sweep the Airlords out of the west."

A giant, bearded Groundling soldier waved his bloody sword aloft and shouted in a bull voice.

"For years," he yelled, "my dearest wish was to kill Jan Strang. But now that he, or the man in his body, has won our land for us again, I say—hail Jan Strang, President of Amer!" There was a roar of approval from a thousand liberated voices.

THE END

DON'T MISS IT!

The December issue of AMAZING STORIES Monthly on Sale at all Newsstands October 10

Pirates



Illustration by Julian S. Krupa

of Eros

By FREDERIC ARNOLD KUMMER, JR.

After his space ship suffers a mysterious crash on Eros, Saunders is demoted in disgrace. Seeking vindication, he uncovers a diabolic plan to wreck interplanetary travel and enrich a band of unscrupulous pirates

CHAPTER I

A Lonely Post

CAPTAIN ROSS leaned across the desk, his eyes as grey and bleak as a Lunar landscape.

"I've read your report, Saunders," he said slowly, "and find it hard to believe you guilty of such gross negligence. Have you anything further to say before I sign your discharge?"

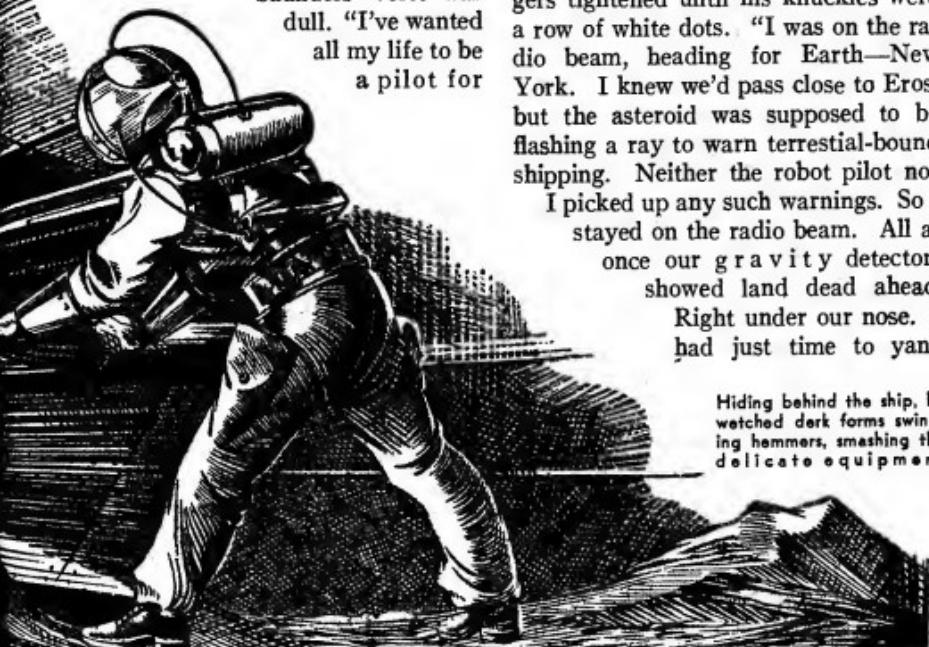
"Nothing, sir." Dave Saunders' voice was dull. "I've wanted all my life to be a pilot for

Triplanetary. Now on my first run I've cost the company a ship, a cargo, the lives of twenty-three men. But I still don't understand how it happened."

"That cargo, now," Captain Ross murmured reflectively. "Odd we found so little of it in the wreckage. A hundred thousand dollars in gold, and a fortune in Martian rubies. Tell me in your own words, Saunders, just what occurred."

"Not much to tell, sir." Dave's fingers tightened until his knuckles were a row of white dots. "I was on the radio beam, heading for Earth—New York. I knew we'd pass close to Eros, but the asteroid was supposed to be flashing a ray to warn terrestrial-bound shipping. Neither the robot pilot nor I picked up any such warnings. So I stayed on the radio beam. All at once our gravity detectors showed land dead ahead. Right under our nose. I had just time to yank

Hiding behind the ship, he watched dark forms swinging hammers, smashing the delicate equipment



the controlling lever of the forward rockets. They kept the bow up, but the rear of the ship slammed down, smashed to bits. Then, the fuel lines cut, the nose fell. When I came to, I was in the sick bay of the rescue ship."

"Sole survivor of twenty-two men in the crew and the ray tender on Eros," Captain Ross said grimly. "Your ship crashed right into the ray station there. A miracle that pilot room remained air-tight." He paused, staring at Dave's pale, harassed face. "You say there was no warning beam. You say you kept your ship on the New York radio beam and still hit Eros, thousands of miles off the course. Some people might believe you, Saunders, but Tri-planetary's board of directors won't." Again Ross paused. "Don't think I'm doing this because of your attachment to Mary . . . but, well, I've arranged for you to stay with the company. Not as a pilot, of course, but as a ray tender."

"A—a ray tender!" Dave gasped. "I . . . I . . ."

"It's a hard life," Ross went on. "A lonely, bitter life. But if you stick it out for two or three years, I'll have your case reviewed, try to get you reinstated."

Two or three years! Dave's eyes were dim. Three years away from Mary Ross! And then only a chance of being reinstated as a pilot! Men, they said, went mad on the lonely little asteroids and satellites. . . .

"What post?" he muttered.

A thin, intense smile formed beneath Ross' grey, close-clipped moustache.

"A post recently deprived of its tender," he said at length. "Eros. . . ."

Dave Saunders washed his supper dishes, settled himself in the big chrome-and-spun-glass chair. The ray station at Eros, hastily rebuilt after its

destruction in the crash, was modelled along strictly utilitarian lines. The living quarters, a marvel of compactness, included all told less than thirty square feet. Sink, table, stove, chair, bed, television set and bookshelves, each in its place. Four doors broke the walls of the room; one to the closet where Dave's clothes and belongings were kept; one to the storeroom, with its canned foods, its oxygen tanks; one to the cold, bleak surface of the asteroid outside; and one to the engine rooms, the beam broadcaster. Dave glanced bitterly about the barren living-quarters, reached for his pipe.

The past six months had been a nightmare of unutterable loneliness for Dave. The curiously shaped little planet was only twenty-two miles long and seven miles in diameter, but, space-suited and heavily weighted, he had explored every inch of it. The beam, entirely automatic, required no more than an occasional adjustment, an infrequent drop of oil. For the rest of his time there was only the unending fight against madness, despair.

Visions of Mars, his home, with its dusty red plains, its fiery blossoms, its whispering canals, tore at his brain. And Mercis, brilliant capital of Mars, with its great white crystalloid buildings, its gay little cafes, its traffic-jammed waterways! More poignant than all else was the memory of Mary Ross . . . Mary of the raw gold hair, the Mars-red lips, the soft, incredibly blue eyes. Dave's fingers gripped the arms of the chair, mercilessly.

Abruptly, he leaped to his feet, snapped on the television set. An orchestra took shape on the screen filling the room with soft music. The plaintive rhythm of Venusian lutes, of strumming Martian guitars, pulled with nostalgic tenderness at Dave's heart. He spun the dial of the set, watched a

commentator's face appear.

"... rumored that the new luxury liner, *Stellar*, en route from Mars to Earth is carrying a million dollars worth of gold bullion in her vaults to stabilize the wavering terrestrial dollar. Among the noted passengers on the *Stellar* are, Ken Argyle, big game hunter and space trotter, Captain Robert Ross of Triplanetary and his daughter Miss Mary Ross...."

Dave Saunders laughed harshly, turned off the televiser. Mary on the *Stellar*! She'd pass within ten thousand miles of him! He could picture her, in a shimmering cellosilk dress, surrounded by admirers . . . while he wore away his soul on this barren bit of rock! Her last letter, brought by the monthly supply ship, had made no mention of the trip to Earth. Still, you couldn't expect a girl as attractive as Mary to wait three years on the slim chance that he would be reinstated as a pilot. The very slim chance. . . .

Suddenly Dave opened the door of the closet, took out his space suit. A brisk walk in the cold void outside, he felt, would drive some of these torturing demons from his brain. Snapping the helmet into place, he moved toward the air-lock.

Dave's lead-soled shoes thudded dully against the rocky surface of Eros. Bitting sub-zero cold penetrated even the heavy space suit. Except for the dim radiance of the stars it was dark; nearby Terra blotted out the sun. Only the ray-station, its round windows glowing with lights, gave a cheerful human touch to the scene. Dave set out across the plain with long swinging strides, stretching his cramped muscles until they ached pleasantly. He was returning to the station, refreshed by the exercise, when he saw the jet of ruddy flame lash across the sky. A rocket ship! Braking its speed to land on

desolate Eros!

Stumbling in his haste, Dave ran to meet it. The supply ship was not due for another two weeks; could this be the *Stellar*, come to relieve him of his lonely post? Dave's heart leaped with hope.

The rocky plain was alive with lurid crimson light, shifting black shadows. Riding its columns of fire, a sleek silver ship settled to the ground. Dave adjusted his micro-wave communications set, moved toward the vessel.

He was just rounding the stern of it, heading for the main air-lock, when the heavy steel door swung open and a number of space-suited figures jumped to the ground. Tall, burly men, they were, and the sight of them, atomite rifles in hand, sent a wave of suspicion through Dave's brain. Crouching in the shadow of the ship's huge rocket tubes, he turned the dials of the micro-wave set. Hoarse commands echoed in his ears.

"Flane, you take your men and destroy the ray broadcaster. You, Donovan, start setting up the radio beam unit. The rest of you look for the ray-tender, blast him down! And hurry! The *Stellar*'s due in four hours!"

Dave's face, behind the glassite helmet, became suddenly a grim white mask. Destroy the broadcaster! That would cut off the warning signal that went out into space to notify all pilots of Eros' presence! Set up a radio beam unit! Sudden remembrances of his own fatal crash on Eros flashed before his eyes. It was clear now . . . horribly clear! These wreckers, after eliminating the rays, had put up a powerful portable radio-beam transmitter, of the same frequency as the one in New York. And his robot pilot had followed this nearer, stronger beam, crashed the ship on dark Eros!

After the crack-up, while he lay un-

conscious, the wreckers had returned, taken the bars of gold from the shattered hull, and vanished in the void! Only their belief that the entire crew had been killed kept them from entering the control room where he had lain unconscious. Simple . . . and horrible! Now they planned to do the same to the *Stellar*, salvage her cargo. And aboard the *Stellar* was Mary, Captain Ross! Death loomed for all those on the luxury liner, and he, Dave, was unarmed, helpless!

Against the brilliantly-lighted windows of the station he could see dark forms swinging hammers, smashing the delicate equipment. In its place they were setting up heavy rheostats, yttrium filters, and sub-chromium grid screens. Following this radio beam the *Stellar* would crash into the station, leaving a mass of fused and twisted metal in no way recognizable as a radio beam transmitter. Here, too, would be the tender's mangled body, apparently killed in the wreck. Dave remained motionless, crouched in the shadow of the ship's stern. Scattered groups of the pirates were sweeping the plain with searchlights, looking, he knew, for him. Yet if he could remain undetected until after they had gone, he would be able to cut off the false radio beam. . . .

Sudden voices, echoing in his microwave receiver, froze him with horror.

"Have a look about the stern of the ship. If he's not there, then he isn't on this blasted bit of rock!"

Dave glanced about. No place to hide, and sure death if he tried to run out in the open. A torch sent a pencil of light toward the rear of the vessel, barely missing him. In another minute . . . All at once his gaze fell upon the great rocket tubes, over two feet in diameter. No danger of their being hot. The rear rockets would not have been used since the ship acquired its initial

momentum, somewhere out in frozen space.

With desperate haste Dave dove into the big metal cylinder. The ship was tilted nose down, due to the unevenness of the rocky plain. Very gently Dave slid down along the sooty exhaust tube, landed with a light thump in the firing chamber, of which there was one for each of the dozen rear rocket tubes. The firing chamber was large; Dave sat up, watched the lights flashing at the other end of the rocket tube.

As they died away, he chuckled softly. In another moment the men would be out of sight of the stern and he would be able to come out. It would be easy to remain in the shadow of the tubes until the wreckers were all in the ship, ready to depart. Then, running clear of the exhaust flames, he would wait until they had left Eros, smash their radio beam. The *Stellar* saved, he would be able to explain his own crash, be reinstated as a pilot. . . . Thrusting his head and shoulders into the rocket tube, Dave started to wriggle out.

Escape from the firing chamber, however, seemed far more difficult than entering. Beneath their layer of soot the rocket tubes were smooth, gleaming ferro-beryllium. Hands clumsy in the asbestoid covering of the space-suit, he sought to gain a grip upon the walls of the tube, but to no avail.

Within the glassite helmet Dave's face grew moist with sweat; twisting, writhing desperately, he fought to reach the vague circle of starlight at the end of the tube. Yet after twenty minutes of struggling, he had not moved forward a foot. And as, exhausted, he ceased his efforts, he felt himself slide gently back into the firing chamber.

Sudden panicky terror gripped Dave.

Trapped! In the cylinder of a space ship! Once the wreckers reentered their ship, turned on the rockets to leave, he would be reduced to a mere pinch of ashes! Again he tried to climb the slanting tube, but his efforts were futile. Nothing to grip, and the rear wall of the firing chamber was too far back for him to kick against it. He was a prisoner!

CHAPTER II

Trapped

LONG dragging minutes passed. Dave crouched upon the floor of the combustion chamber, dull with despair. Any second now he would be blasted to eternity. And the *Stellar*, following the false radio beam toward Eros. . . .

Suddenly, Dave straightened up. There was a chance . . . a wild, impossible chance, true, but better than sitting there waiting for death. His air supply, if used sparingly, might last another four hours. And in that time, well, anything could happen. Swiftly he began to grope about the wall of the big fire-box, seeking the fuel jet. Surprisingly small it was, a valve no larger than his little finger; yet so great was the power of the fuel that a few ounces of it would fill the chamber with flame. On each side of the fuel outlet was the dual ignition unit, two small spark-gaps.

His hand trembling, Dave felt in the capacious outer pocket of his space suit. Among other odds and ends he finally located the greasy rag he used to wipe off the contact points of the ray antenna. Tearing off a strip of the cloth, he forced it into the valve. Another and then another, until the fuel line was effectively clogged.

Dave had barely finished when the firing chamber was lit by a lambent

blue light. Flickering flame danced between the terminals of the spark-gaps. With frantic haste he wedged himself in a corner of the great fire-box, braced for the shock.

A racking convulsion shook the ship. For a moment the pressure flattened Dave against the wall, crushing him with awful force. Then, inertia overcome, the pressure was relaxed, enabling him to crawl across the metal floor to the rocket tube, peer along it.

Roaring red exhausts from the other rockets enveloped the rear of the ship in flame, but while he could not see the sky, Dave knew that Eros was already hundreds of miles behind, a tiny bit of rock in the great black void. Adjusting his oxygen intake valve to half pressure, he sat still waiting, although for what he was not sure.

For the first five minutes Dave was comparatively comfortable; the reduced flow of oxygen from his supply tank induced a dreamy, lethargic state. As time passed, however, heat from the other rockets began to penetrate the silent firing chamber.

Slowly the temperature rose, radiated from the hot walls; nor was the biting cold of the void outside able to enter through the rocket tube, since the entire stern of the ship was enveloped in searing, blazing rocket exhaust. Even the asbestoid space suit could not withstand the heat; sweat poured from Dave's face, plastering his hair in dark ringlets upon his pale forehead. Within the oxygen tank he could hear ominous cracking sounds as the compressed air, expanded by the heat, sought to burst the heavy durachrome container.

Dave shook his head, swore weakly. The terrible temperature was sapping his strength, making the most trivial movement a tremendous effort. Slowly he withdrew his arm from the sleeve of his space suit and, reaching up beneath

the helmet, mopped his face. Expanding air ballooned the suit to grotesque rotundity. And as the other rockets increased their explosive tempo, a red glow crept along the flame-wreathed tube toward the firing chamber.

The heat was stifling, unbearable, now. Dave swayed slightly, crawled toward the inner wall of the chamber which, facing the interior of the ship, was slightly cooler. Even here heat radiated from the other plates of the metal fire-box surged in relentless waves toward him. A mist began to form before Dave's eyes. Quite suddenly everything was blotted out by black unconsciousness.

It was the jarring blows on the plate behind him that awakened Dave. He opened his eyes confusedly, glanced about. All at once he realized that it was cool, pleasantly so. A glance along the rocket tube showed him that flame no longer formed a comet-like tail behind the ship; he could see a circle of blue-black sky stippled by brilliant stars. At his back the plate shook under a new rain of blows.

Suddenly the explanation leaped through Dave's cloudy brain. The wreckers, realizing that one of their rockets was out of commission, had shut off the other tubes, were opening the firing chamber to make repairs. Dave spun around, counting the pencils of light that stabbed the darkness behind them. Four of the great bolts that held the rear plate of the firing chamber in place had been removed. Only two remained. In another minute. . . .

With a quick movement he opened his oxygen valve to its fullest extent, gulped in the life-giving air. Then, revived, he crouched low, waiting. Ten seconds, twenty seconds. . . .

A jarring crash as the plate fell free, a flood of light pouring into the fire-

box. Dave could see three bulky figures, space-suited, since the engine room had been isolated, cleared of air, for the repair job. Behind their transparent helmets three brutish faces registered blank amazement at sight of him.

Shooting forward like a human meteor, Dave caught the first of the men about the knees, toppled him to the floor. The wrecker's glassite helmet banged upon the steel floor, splintered into a thousand gleaming bits. Dave had one glimpse of an awful convulsed countenance gasping for air, and then the others were upon him, brandishing heavy wrenches.

An almost instinctive leap backwards saved him. One of the massive tools, swung savagely at his head, missed the helmet by only a scant inch. The other struck his arm a glancing blow, numbed it to the fingertips.

Warily Dave retreated before the flailing blows, dodging, side-stepping, in desperation. In his micro-wave set he could hear the two men calling for help, telling their comrades to bring heat-rays. Dave backed away, his eyes darting from side to side in search of a weapon of some sort. All at once he saw one, a small, sharp-bladed chisel lying on a workbench. Snatching it up, he hurled it at the nearer of his two adversaries.

The little chisel whirled across the engine room, struck the man on the chest, ripping a hole in his space suit. A look of horror crossed the wrecker's face; dropping his wrench, he sought to grasp the edges of the rent, prevent the precious oxygen from escaping. It was too late. Like magic the tear in the suit widened, forced open by the escaping air. Choking, his face black, the man fell to the floor.

As he threw the sharp-bladed little weapon, Dave had moved to one side,

avoiding the ponderous blows of his remaining adversary. Confused thoughts surged through his brain. Mary . . . Captain Ross . . . the *Stellar* plunging through space to destruction! He had to do something, anything to save them!

Slowly he backed away from the last of the three men. Shouts from other parts of the ship sounded in his communications set earpiece. "Getting our space suits!" "Be there in another minute!" Dave eyed his opponent narrowly, seeking an opening. The man was pressing forward eagerly, encouraged by the nearness of his comrades.

Dave continued his retreat. If he could catch his antagonist off guard. . . . Suddenly his heel struck metal. The wall of the engine room! No chance of escape now! He was cornered!

CHAPTER III

A Losing Race

A TRIUMPHANT grin spread over the face of the man before him. Raising the heavy wrench, he set himself for a finishing blow. As the weapon descended, Dave stepped inside its sweeping arc, sank his fist with all the force of his lean wiry frame, into the man's stomach. The wrecker gasped, staggered, and slumped unconscious to the floor.

For a moment Dave leaned against the wall of the room, recovering his breath. All at once he noticed the door leading to the interior of the vessel glow red under a heat-ray blast. Locked on his side to prevent the escape of air while the rocket tube was open, it had to be forced. Still, there was only a question of minutes before the steel panels yielded to the heat gun. And then. . . .

Dave laughed sardonically. What

chance would he have against twenty well-armed, well-equipped men? And the *Stellar*, plunging at breakneck speed toward Eros! Did fate decree death to all aboard the liner? To Mary . . . Mary of the sunny hair, the Mars-blue eyes! Unless he could somehow gain control of the ship. . . .

All at once Dave's eyes fell upon the firing chamber, open since the removal of the rear plate. It was, he noticed, directly in line with the red-hot door. Springing forward, he unscrewed the valve, removed the strips of cloth with which he had clogged it. As he straightened up, a section of the engine room door as big as a dinner plate melted away. Air, cooped up in the rest of the ship, whistled through the opening, escaped via the open rocket tube. The beam of the heat ray shifted, focused upon the lock of the door. Confused shouts echoed in his micro-wave ear-phone.

Dave worked frantically, his fingers clumsy in their heavy asbestos covering. The control wires, leading from the pilot room to the open firing chamber number four, were quickly cut, spliced to other sections of wire to increase their length. Clutching the strands of wire Dave retreated to a far corner of the engine room, crouched behind one of the gigantic gyro-stabilizers. The lock of the door, white-hot, was beginning to fuse, to run. Suddenly it disappeared altogether and the door swung slowly open.

Bulky figures, resembling misshapen monsters in their heavy space suits, crowded through the entrance. In their hands they held heat guns, powerful atomite rifles; their faces, beneath the glassite domes of their helmets, were cruel, savage.

Dave hooked two of the wires, twisted them together. The fuel valve of rocket number four opened, shot thin

jets into the firing chamber. Standing before the doorway opposite it, the wreckers glanced cautiously about, their guns raised. Dave crouched even lower, touched the two remaining bits of wire, the ones controlling the ignition system.

A sickening shudder shook the ship. From the maw of firing chamber number four a crimson tongue of flame lashed out, jetting across the engine room. Terrible, searing heat, a veritable breath of hell, swept over Dave. Despite the fact that he was well out of its path, protected by the gyro-stabilizer, he felt faint. Blinded by the fierce glare of the flames, Dave groped for the wires, tore them apart. Then, slumping to the floor, he lay still, waiting for the deep cold of the void to penetrate the rocket tube, cool the hot metal of the walls, the floor.

It was perhaps ten minutes before Dave felt strong enough to clamber to his feet. Wiping the soot from the face of his helmet, he glanced about.

The engine room was a chamber of horrors. Charred bits of asbestoid, fused fragments of metal and glassite, an occasional blackened bone or tooth. A grisly shambles, the remains of the twenty-odd vigorous men who had come to the engine room seeking his life. Dave shook his head, slightly nauseated.

All at once he straightened up. Mary . . . Captain Ross . . . the *Stellar!* Was there yet time to save them? Four hours, the wreckers had said back on Eros! More than three must have passed since then. If he could reach the control room, the radio. . . .

Springing forward, he ran toward the door. The iron floor about it was still glowing. Dave slipped and slid precariously as the lead gravity soles of his shoes melted like butter. Then his feet were ringing on the cooler metal of the

companionway, the stairs leading to the pilot house above. Had the wreckers left anyone at the controls? Surely, with the ship hove to for repairs, they would not need to do so. . . .

The door of the control room loomed ahead at the end of the corridor. Dave pushed it open cautiously, glanced about. The room was empty.

Swiftly he turned to examine the ship's radio. A large and powerful television set, it seemed to be in excellent condition saving only that it lacked a view plate. The wreckers, no doubt, had removed the plate in order not to be recognized when communicating with other ships, shore stations. Still, as long as the sound system was intact. . . . Dave bent over the transmitter, adjusted its dials.

He was just about to call the *Stellar* when swift, sickening realization swept over him. The ship was empty of air! No sound could penetrate the heavy helmet, the vacuum about him . . . and to remove the helmet, was sure death; the air in his lungs, expanding, would burst his chest. No time to search the ship for the missing view-plate, write messages . . . and no time to build up the air pressure in the control room. Impossible to warn the *Stellar*, prevent it from hurtling to destruction on Eros' rocky surface!

Rising blood made a tight collar about Dave's throat. To have come through so much, to have gained control of this ship . . . and all to no avail! The wreckers' false radio beam was drawing the liner inexorably toward the dark asteroid and he had no way of warning them!

All at once Dave's eyes lit up. If he could destroy that broadcasting unit, the *Stellar* would return to the true beam, the weaker one emanating from New York! And to destroy it, he would have to reach Eros before the big liner!

He glanced at the ship's chronometer. Ten minutes!

Yanking back the T-bar, he tried a tentative blast of the rear rockets. The ship responded sluggishly, with a jerking motion.

Its rockets roaring in a staccato uneven cadence, the battered ship streaked through space.

Close, now. It must be. Dave's hand closed about the forward rocket release. Perhaps he should start slowing her down. . . . He glanced at the mirror in the observer. No chance of seeing Eros, but . . .

Dave's shoulders stiffened. That row of yellow dots, dim even in the powerful lens! No stars, nor asteroids . . . but the big port holes of the luxury liner! Too late to think of landing, cutting off the radio beam! Seconds only remained before both vessels crashed head-on against the little asteroid. Yet if he struck it first, the explosion of his crack-up might serve to warn them. . . .

Dave released his grip on the forward rocket lever, opened the rear rockets to their limit. The crippled ship leaped ahead crazily. Dave glanced up at the big mirror. The row of yellow portholes was nearer, larger, now. And somewhere behind one of them was a girl with deep blue eyes and tawny hair. . . . A quick smile spread over Dave's tanned face.

"Goodbye . . . Mary!" he whispered!

All at once the gravity detectors shrilled a sharp warning. Dave froze into still immobility. If only the flare of the crash would serve as a warning to those aboard the *Stellar*! If only its pilot. . . .

A blinding explosion shook the ship. Dave felt only the merest fraction of an instant's pain before oblivion dragged him into its black abysmal depths.

Mary's face was dim, incredibly far-off. More, she seemed to be crying. Dave shook his head, painfully.

"You're not real, of course," he muttered. "I'm dead. I couldn't help but be."

"Dave!" Warm, very real lips touched his cheek. A tear, dangling precariously from one of her eyelashes, splashed upon his chin.

"But it's impossible!" he whispered unbelievingly. "Full speed . . . into Eros . . . no one could live! Before, slowed down, it was . . . miracle. This time . . . rockets wide open. . . ."

"You never touched Eros, Saunders." Captain Ross' face materialized in the mist. "Your fuel tanks exploded just as you were about to crash. Overheated engines, I guess. I don't have to tell you the asteroid is only seven miles across and almost without gravity. Well, the force of the explosion, while it demolished the rear of the ship, shot the forward half off on a tangent. The glare of burning fuel warned us in the nick of time, saved us from piling up on Eros. We set out after the remains of the wrecked ship to see if anyone aboard were still alive. Found you in the control room with most of the T-bar assembly parked on your chest. Lucky you had on a space suit, Saunders!"

"Had to wear one, sir! The firing chamber open, when the wreckers. . . ."

"Take it easy, son." Captain Ross smiled. "Plenty of time for you to make your report later on. First thing is for you to rest up, get well. You see, the *Stellar*'s sister ship will be launched next month and we'll be needing a quick-thinking, competent pilot to handle her!"

Dave glanced from Captain Ross to Mary, grinned weakly.

"Guess I *must* be dead," he said at last. "And by some mistake landed in heaven!"

The Secret of the Ring



Lying on the floor of the globe
was a motionless figure—a girl!



By THORNTON AYRE

Great storms and quakes threaten civilization. Science is baffled until Terry Marsden uncovers an incredible mystery in the Sahara

CHAPTER I

Extreme Measures

BEATH a sky darkened to twilight gloom with lowering, scudding clouds, battling into the teeth of blinding rain, Elsa Dallaway made her way across the broad, pool ridden expanse of tarmac to the Receiving Station of the Dallaway Stratosphere Corporation.

The whirling of the wind whipped her heavily mackintoshed figure along relentlessly, slammed her breathless against the door of the building. A

shower of drops and a triumphant screech of wind, then she was inside, dripping water onto the spotless wooden floor.

"Whew!" she gasped, tearing off her sou'-wester and patting disturbed masses of black hair into place. "Another glorious day, Terry!"

Terry Marsden did not look round, or answer. Surprised, the girl glanced at his broad, gray shirted back and blond head. The sight of clamped earphones explained the reason. A brown hand was skillfully operating the radio apparatus.

The girl waited, pulled off her mackintosh and wandered across to the bench where he was working. Terry became aware of her presence as the solitary electric light caught the huge, queer stone of the ring on her right hand. Somehow one always became conscious of Elsa Dallaway by that ring before coming to look at the girl herself. It picked up light in startling chromatism.

"Oh, it's you!" Terry tugged off the phones and threw them down, smiled up at the girl. "I was just listening to the record of disasters coming through . . ." He paused, his deep blue eyes serious. "Elsa, do you realize that it has been raining now for twelve days and nights without ceasing?" he asked ominously.

"It does seem a long time since I had a sunshade out," the girl admitted, reflecting.

"It's getting darned serious! First the great Chinese earthquake which upset the atmosphere so badly that the weather fell to pieces. Then the eruption of Vesuvius; and on top of that the complete explosion of Stromboli's crater. Thousands of lives wiped out, oceans heaving up, land sliding down—Tempests and tornados . . . and the rain . . ."

Terry stared at the gloomy window as the screaming wind hurled the deluge against it.

"The Mississippi overflowing and the Hudson rising hourly," the girl finished with a sigh. "Yes, Terry, it is all very terrible—but it'll stop!" she added brightly. "It always does. Just a disturbed spell, that's all."

"Hope so. . . ." Terry glanced up at her quickly. "Incidentally, what brought the wealthy owner of the Dallaway Corporation to see her ace pilot? Not the weather, surely?"

"No. I dropped in to tell you that

you're liable to be without relief during the lunch hour and will have to hang on here. We just got the news that Carlton was involved in an auto accident this morning—So bang goes your chance of relief man."

"You could have phoned that news to me."

"Oh, sure—but I couldn't have phoned you your lunch." Elsa smiled naively. "Besides, this seemed as good an opportunity as any to have a few moments with you."

Terry chuckled, got to his feet and held the girl in his arms. Steadily he looked into her clear gray eyes.

"You know, you're the living proof of the fact that business and pleasure can mix," he said at last. "Gosh, Elsa, if anything were to happen to you I'd go nuts!"

"Why wait for something to happen to me?" she smiled.

"Ouch! But on the level, I—"

Terry broke off, immediately businesslike again as the short wave radio, directly contacted with the Department of Public Safety at Washington, burst into life. Quickly he switched from headphones to loudspeaker.

"Attention all air pilots and stratosphere fliers! Orders from the President! All heavy type storm airplanes will prepare for take off in sixty minutes, will leave fully equipped with storm recording apparatus. You will travel from New York to Los Angeles and back again, determining as you go exactly what air currents and velocities are in force. Detailed analysis of abnormal weather conditions must begin immediately . . ."

"Stratosphere Corporation pilots! You will ascend to the hundred mile limit and take a detailed survey of conditions, together with full recording of cosmic wave intensity in an endeavor to discover if cosmic waves are

in any way responsible for the present conditions. Your findings, when made, will be immediately forwarded to the Science Analysis Department of Public Safety. That is all."

Elsa glanced at Terry in startled wonderment as the order ended.

"Say, things must be pretty bad to demand such measures!" she exclaimed. "And from the President himself, too!"

"Of course they're bad! If rain and tidal waves don't let up soon the whole of civilization is going to be inundated—believe me!" Terry paused, rubbed his chin worriedly. "This is going to be awkward. I'll have to go up, of course, but now Carlton's out of action I'm without a relief assistant. . . . Maybe Davies will do."

He moved to the headquarters telephone, then turned surprisedly as Elsa caught his arm.

"Reporting for duty, sir!" she said with mock stiffness, saluting.

"Huh? Hang it all, Elsa—"

"Oh, break down!" she expostulated. "Haven't I been told every thing there is to know about our stratosphere globes? Didn't dad drill it all into me before he died? I'll make a better flight assistant than anybody—and nobody can say anything when I'm the head of the entire Corporation."

Terry hesitated a moment, then nodded quickly and patted her arm.

"Good girl! Nobody I'd rather go with, of course. I'll have Davies come here to the radio instead. Hang on here while I tell the boys they'll be wanted."

He hurried into his flying kit, went out into the raging storm with a shower of raindrops and slamming door.

CHAPTER II

Tragedy

THE STRATOSPHERE CORPORATION, founded in 1950 by Dou-

glas Dallaway, himself the creator of the first practicable stratosphere globe, had in its fifteen years of progress produced an army of scientific pilots whose motto was—progress and obedience.

The huge organization, maintaining a constant air service in the higher levels of the atmosphere, together with a perpetual Government contract for the carrying of express mails, entirely respected the orders of Elsa Dallaway as chief of the concern. Terry, for his part, as the ace pilot, was undisputed boss of the engineering and flying side of the business.

His orders to the pilots in the mess rooms were accepted without questions, even though the danger of flying in such weather was pretty considerable. Though it was mid-day, the gloom outside resembled that of late evening, clouds hanging low, rain sweeping down in torrents, into the midst of which gradually moved the huge globes of the stratosphere machines from their hangars.

Terry used his own machine, equipped with the new Hawkins-Wilson firing cylinders, and thereby able to ascend into the higher levels of the atmosphere at enormous speed. . . . By the time the sixty minutes were up he and the girl were seated in the small, circular control chamber, their scientific instruments grouped around them. At Terry's radio signal the other globes of the squadron began to rise into the midst of the howling storm.

Terry watched them critically for a moment, then turned to his own controls, released the electric circuit which fired the undertubes. Instantly the globe swept smoothly upward in a straight line, held firmly by a master hand on the controls amidst the buffettings of the tempest, increasing every foot of the way.

Rain swamped against the windows

as Terry and the girl stared fixedly out on the approaching ceiling of angry nimbus. Wind screamed wildly in every tiny crevice of the globe. . . Then they went through the midst of the nimbus and the rain changed to dense, writhing mist.

Up and up. . . . The clouds seemed unending.

"Sure is plenty of upset in the atmosphere to make clouds this dense," Elsa said briefly, getting up from her chair and moving to the recording machinery.

"Umph," Terry acknowledged, his entire concentration devoted to the task of controlling the vessel.

The globe left the clouds at last, plunged up steadily through the troposphere into the stratosphere. Here at last the sun came into view, searingly brilliant in a purple sky, its prominences and corona plainly visible.

Terry slowed the vessel climbing, began to move forward with gathering speed in the rarefied heights. His floor reflectors gave a view of the earth below shrouded from end to end in whirling gray clouds. Somberly he studied them.

"Guess I never saw sky like that before," he sighed; then swinging round, "Anything queer registering in the instruments?"

Elsa shrugged her slim shoulders. She was standing before the main window in the glare of the sunshine, fingering her apparatus and peering at their various recording meters. The ring on her right hand shone with a gleaming blood red fire in the savage brilliance. Unconsciously Terry found his gaze drawn to it.

"Say, you'd better keep your head away from the window," he warned her suddenly. "The globe's walls are insulated to cosmic rays and the sun's radiation, but the windows aren't. If cosmic rays strike through the glass onto

the nerve centers of your brain anything might happen. I once saw a guy go raving mad through that."

Elsa smiled faintly. "Guess my brain won't be affected much, anyhow. . . ." None the less she straightened up and sought the protection of the wall. Only her hands, slender and white, were in line with the window.

"Cosmic rays one hundred per cent," she observed at length. "That's normal for this height. Sunspots down to minimum. Wind velocity zero. No other radiations. So I guess the weather troubles are not connected with anything up here. The earth itself must be responsible."

"You're probably right. We'll finish the course anyway and see if there's anything else. . . ."

Terry turned back to his indicator-map, guided the globe entirely by the automatic pointer connected by radio stations on the earth below. By its aid he knew exactly what part of the world he was over. . . . For two hours he drove steadily onwards, came over hidden Los Angeles at last, swung round and started to return home to New York. Below, the scudding mass of gray was unchanged.

Elsa relaxed from her instruments, sat in the padded chair before them and yawned.

"Most unexciting," she sighed. "I'd expected much more!"

Terry slipped the automatic pilot into position and came to her side, sat down. She looked at him in surprise as he raised her right hand gently and stared at the ring on her finger.

"Something wrong?" she questioned.

"Not a thing— But, ever since I first met you this ring of yours has fascinated me. Funnily enough, this is the first time I've really had time or opportunity to see it properly. The brilliant sunshine sets it off amazingly."

She regarded it critically, turned it slowly so that it flickered lambent, hidden fires.

"Yes, it is rather beautiful," she confessed. "Mother gave it to me just before she died six years ago. She had it from her own mother, and so on right down the scale of ancestors. Lord knows when it first came into being. No jeweler so far has even been able to tell what the stone is. Looks like a mixture of ruby, diamond and opal . . ."

She gave it a little tug and pulled it off her finger, handed it over. Terry studied it curiously and with a shrug finally handed it back.

"Makes the engagement ring I gave you look mighty sick by comparison," he sighed. "In fact I— Anything the matter?" he asked sharply, as he saw the girl was rubbing her finger rather vigorously.

"Nothing at all. Finger feels a bit cramped, that's all. Maybe I tugged too hard getting the ring off. . . ." She forced it back over her knuckle. "Ah! That's better . . ." But she still scratched her finger lazily for quite a time afterwards, relapsed into thought as she did so. Quietness fell on the cabin save for the dull droning of engines.

"Terry," she said at length, slowly, "did you ever feel that the life you are living is just superfluous? That you're really intended for something else?"

He grinned a little. "Well, privately, I always wanted to be an engine driver—but since I finished as a pilot I suppose you might consider my flying superfluous. I missed my real calling—"

"No—no, I'm serious!" she insisted, her eyes earnest. "It's something so much deeper than that! I often feel that somehow I don't really belong to this . . ." She paused, shrugged her shoulders. "Oh, skip it! I'm going moody, or something."

She got to her feet, walked slowly round the little room as Terry returned to his controls. Presently she spoke again.

"Doesn't it strike you as rather stuffy in here?"

"Dunno; is it?" He glanced at the gauges: they registered normal. Puzzled, he turned just in time to see the girl sink slowly into her padded chair and pass a limp hand over her forehead. He could see it was glistening with a sudden dewy perspiration. Her face had gone curiously pale.

"Elsa! What's wrong?" He scrambled out of his chair, seized her arms tensely and stared into her drawn face.

"It's—it's nothing. . . ." Her voice was low, almost fearful. "Just—just that I feel a bit faint, that's all. . . ."

"Faint, eh? This won't do! You've got a touch of radiation sure as fate. I warned you about that window. . . . Just leave this to me."

He raised her in his powerful arms, kicked down the emergency bed and laid her gently upon it, bunched up the pillow under her dark head. Then he got to work with sal volatile and oxygen cylinder. The girl revived a little under the combined influence, began to show signs of rising from the near-faint that had seized her.

Terry smiled at her gently. "You'll be okay," he murmured; then turned back to his controls. He permitted none of the anxiety he felt to be registered on his face. Cosmic ray prostration, or even paralysis from unwise soaking in the sun's unmitigated radiation, could produce horrible effects as he had reason to know. But after all she had only had her head near the window for about two minutes. Surely not enough—?

He gave the globe full power, sent it hurtling at maximum capacity through the nearly airless heights,

watched anxiously as the pointer changed position on the map. Ever and again he shot a glance at the girl as she lay watching him—was rewarded with a curiously tired smile that gave him an inward pang.

Her change from active, jesting energy to languid weariness in so short a time was something he could not properly understand. His relief was unbounded as the pointer hovered at last over the New York headquarters. Swiftly he shifted the controls and began to dive through the gray murk. . . .

In fifteen minutes he had dropped through the whirling clouds into the shattering fury of the storm once more. The globe reeled crazily under the onslaught, was mastered once more by flawless controls, dropped swiftly to the tarmac outside the hangars. Here and there other machines had already landed.

"How now?" Terry leapt to the girl as she lay still.

A trace of her old smile curved her lips. "I—I don't quite know," she whispered. "Funny thing is. . . . I can't feel anything!"

"What!" Terry's effort to disguise alarm was futile. He seized her hand tightly. "Can't you even feel this?"

Her dark head shook. Her gray eyes seemed unnaturally large in her pale face.

"No—not a thing. . . . Oh, Terry, I'm getting scared. . . ."

He caught her behind the shoulders, held her close to him for a moment.

"No need to get scared, sweetheart," he breathed gently. "Just a touch of radiation gotten into you; that's all. I'll have you fixed in no time. . . ."

He laid her down again, swung round to the radio and snapped it on.

"Attention, ambulance quarters!" he barked. "Send ambulance immediately to Globe 47H outside Hangar 92.

Emergency case — Miss D a l l a w a y. Hurry!"

He returned to the girl's side, breathed gentle reassurances to her as she lay limply on the bed, then he got to his feet at the approaching scream of a siren. Swiftly he unclamped the airlock, stood aside as two heavily oil-skinned ambulance men came in with a stretcher. Behind them trailed Dr. Arthur Fletcher, the efficient chief physician and surgeon to the Corporation.

"Trouble, eh?" he asked laconically, snatching out a watch and seizing the girl's wrist at the same time. He said nothing when he had finished, merely motioned his men to take the girl out, watched with impassive eyes as she was lifted gently onto the stretcher and taken out under transparent mackintosh.

Terry followed as far as the ambulance, leaned inside it with his anxious face a few inches from the girl's.

"See you later, honey," he smiled. "I've work to finish. Keep your chin up . . ."

"I'll try . . ." Her voice was so low he could hardly hear it. Heedless of the driving rain he watched the doors close, then turned as Fletcher came hurrying past to climb up beside the driver.

Terry caught his arm. "Doc, what is it? Prostration?"

"Guess so . . ." Fletcher shrugged narrow shoulders. "Slow pulse, feeble respiration, partial paralysis. All the symptoms. She'll be all right in a week or two . . ." He paused and narrowed his piercing eyes. "You had no damn right to permit her to go into the stratosphere anyway! She may know globes backwards but she doesn't know the tricks to keep out of danger. Well, see you later. She'll be in the private ward; I'll take care of her personally."

"Yeah—yeah; thanks. . . ."

Terry moodily watched the ambulance back round then go moving off through the rain and wind to the hospital wing of the vast building. At last he turned and strode away toward his own office quarters.

For the remainder of the day Terry was kept fully occupied. Once he had despatched his reports to the Scientific Analysis Department he was kept busy giving orders for the answering of distress calls endlessly pouring in.

Planes were being lost, vast portions of the country being inundated with flood waters, humanity was being trapped in areas where only storm planes and stratosphere globes could reach them. Hour after hour the tale of rising woe flowed in to him from various sources—nor did the intoned weather reports, given hourly during the existent climatic crisis, give much hope—

"Ceiling zero; wind 86 m.p.h., increasing. Continuous rain all areas. Advise caution to aircraft. Treacherous triple wind currents near all mountain ranges. Visibility 3 to 5 yards."

Several times Terry made fast trips himself to rescue stranded people and bring them to the comparative safety of New York.

By six o'clock, what should have been a normal spring evening, was a chaotic darkness of rain—rain and cyclonic wind that snatched away his breath and pounded him unmercifully as he at last found a spare moment to visit the hospital wing.

Immediately he arrived in the hall the starch bosomed matron telephoned Fletcher. In a moment or two he appeared down the main passage, grave faced and tight lipped.

"Glad you came, Terry," he said quietly. "I was going to ring you. . . . Miss Dallaway is much worse. No use

in trying to disguise it."

"Worse?" Terry repeated bleakly. "But—but Doc, what *is* the matter with her?" He kept pace with the active surgeon along the white enameled corridor. "She was taken ill so suddenly . . . so strangely . . ."

Fletcher paused suddenly. "Frankly, Terry, I don't know what's wrong. It isn't cosmic wave prostration at all. It's something that's utterly beyond me; and beyond our instruments too . . ." He bit his underlip, said slowly, "She's dying, boy. . . . I've got to tell you that. Her heart beats and respiration are getting feebler all the time—"

"She can't be dying!" Terry exploded frantically. "In God's name, Fletcher, you can't stand there and calmly tell me that! A young girl like her, full of life and vigor, just dying for no reason— You've got to do something! *Do something!*"

"I'm doing all I can." The specialist tried to look calm. "You know I am—"

"Where is she?" Terry glared hungrily round and Fletcher silently opened the door of a private room. Slowly Terry went forward to the silent figure in the bed, glanced in fearful horror at the significant screen and oxygen cylinder standing by the bedside.

In the moment that he stood gazing down on the girl he knew Fletcher was right. Elsa was waxen looking, motionless, her long lashes lying on her ashy-cheeks with scarcely a quiver.

"Elsa—dearest. . . ." Terry took her white, cool hand, looked down briefly as his fingers encountered that blazing ring.

"Elsa, it's me—Terry. . . ."

Very slowly her eyes opened. Their gray depths seemed misted, clouded by the unknown. Slowly her lips moved.

"Floating, over stormy waters," she whispered softly. "Terrible landslides

—volcanic eruptions. . . . And the wind! Merciful Heaven, the wind . . ." She shifted uneasily, her eyes staring into vacancy.

"Elsa!" Terry implored brokenly. "Please speak to me!"

He glanced up haggardly as Fletcher shook his head quietly.

"Delirium," he murmured. "Been like this for two hours now. She doesn't know you; doesn't even know herself. Keeps on talking about sand and floods and wind. . . ."

". . . A city, so beautiful . . ." she whispered. "So beautiful, and yet— It crumbles. Down it goes. . . ." She stopped speaking, made a sudden writhing movement and clutched her throat. Instantly Fletcher was by her side, holding the oxygen cone over her mouth. She gasped noisily, struggled with a fierceness that made Terry wince to behold it.

He caught her hand, was suddenly aware that she had ceased making a noise, that the hand was deathly still. Dumbly he stared down on her. The cone had been removed now. Her lips were slightly parted, her eyes closed.

It seemed to Terry in that moment that the whole world turned inside out. Blinding tears obscured his vision. The sheet rising over the girl's face, the scream of the wind, the drumming of rain on the windows—

"Dead!" he screamed suddenly, pounding the bed rail. "Oh, God, no—! No, Fletcher! No, she can't be dead . . . *mustn't* be!"

The specialist's face seemed to dance in mist. His powerful hand closed on Terry's shoulder.

"She *is* dead, Terry," he said gently. "Please, I beg of you, try and control yourself— These things have to be faced."

"Without reason? Without cause? Don't hand me that!"

Things went blank for Terry thereafter. He did not faint, he did not scream. Subconsciously he had hold of himself again, but grief had deadened him to all external happenings. He had a hazy recollection that he went out of the hospital and walked and walked until he was soaked to the skin through his leather clothes. . . .

He walked and walked interminably, and the hurricane seemed to bear in its moaning breath the spirit of the girl who had died but a few short hours before.

CHAPTER III

Mystery in the Sahara

TERRY could not piece anything together for days afterwards. He remembered that it seemed to rain eternally, that clouds constantly scudded over the sky. All thought of work was dashed from his mind. . . . His chief recollections were bitter ones—were those of following a great funeral cortège behind the mourners from the Corporation, of seeing the coffin carried amidst blinding rain into the Dallaway mausoleum on the hill top ground which marked the boundary of the immense Dallaway estate. The stone sarcophagi of the girl's ancestors; her own tomb—It was more than he could stand.

Died from heart failure, Fletcher certified. Heart failure? In a girl so strong and active? Terry's mind revolted at that . . .

The day after her burial in the mausoleum the rain ceased. Drenched landscapes and flooded cities lay under scudding clouds through which a weak sun was trying to shine. Terry began to rise out of the miasma into which he had been plunged. Little by little he took a hold on himself again, faced once more the battle of life. But with Elsa gone nothing really mattered.

The proving of her will, rushed

through at express speed because of the countless things contingent on it, revealed that Terry was the new owner of the Corporation, a thought which pleased him, though he extracted no happiness from it. All he could do was try and guide its destinies in the way the girl would have wished.

As days drifted by and Terry took up his new post in the girl's former office as chief of staff, there came fresh news of disaster—of terrific volcanic eruptions by Vesuvius and Krakatoa, together with tremendous earthquakes in other zones, followed by another unceasing downpour of rain in nearly every part of the world. As he heard the news Terry could not help but remember Elsa's dying words—

"Terrible landslides—volcanic eruption . . ."

A vision of the future perhaps as she was near death? He shook his head bitterly; went back over her strange words in the stratosphere globe, her feeling of superficiality. Was there any conceivable link between these happenings and—?

"Hallo there, Terry!"

He looked up with a start, his chain of thought broken. It was Boyd Conway, his burly successor as chief pilot, who clumped into the office. With a sigh of relief he pulled off his helmet and released a wiry mass of ginger hair.

"Things pretty bad," he commented, perching on the desk and looking at Terry with serious brown eyes. "We've just had reports through from the Analysis Department on our findings a few weeks back. Seems the chances of sun-spots or anything like that causing the present upheavals is most improbable. Whatever it is it's in the earth itself."

Terry nodded idly. "So I figured. What about Munro? What's his angle?"

Conway grinned at the mention of the Corporation's master scientist.

"Oh, he's having the time of his life—and he's doped out a pretty reasonable theory too. He says that every four thousand years or—probably less—the Earth undergoes immense inner changes in its structure—pressures change, stresses alter. . . . You know, the idea worked out by Soddy several years ago. Well, most of the pressure being sealed inside the Earth, it has to have an outlet sometime. During the four thousand year period certain parts of the pressure dribble off through volcanoes and so forth, but there comes a time finally when this is not enough and the pressure inside gets really tough. Then things happen.*

"But that wouldn't cause all this rain," Terry objected.

"No, but it causes the landslides and earthquakes. The rain is the direct outcome of enormous quantities of hot vapor from volcanic blasts striking the cooler levels of the upper atmosphere and thereby producing condensation."

Terry nodded moodily. "I get it, And if it goes on much longer where are we all going to be?"

"Drowned, I guess. . . ." Conway smiled twistedly at the thought; then he glanced up expectantly as the radio speaker gave its warning signal.

"Attention, Stratosphere Corporation! Despatch one hundred globes immediately to western Africa and remove all possible people to nearest zone of safety. Severe earthquake has caused the Mediterranean Sea to overflow Libya and it is now sweeping over the Southern Sahara to Nigeria. Set-

* Munro's theory is undoubtedly correct. Geological data shows this has happened before; the earth went through such a period about the time of the last Deluge. Whole continents went down and others went up in the struggle by the Earth to release its inner forces. A balance was reached, at the expense of huge geological changes.—Ed.

tlers and new colonists are in great danger. Ordinary planes unable to cross storm areas raging in the Atlantic. Depart immediately. Message ends."

Conway sighed and stood erect, pulled on his helmet again.

"More trouble! I'll be seeing you, Terry."

"O. K. Keep in touch with me over the radio."

The door closed behind Conway and Terry turned to stare again at the great windows as the rain washed inexorably against them.

IN the two days of rain which followed, it became more and more evident that disaster was creeping over the world—disaster so wholesale that scientists found themselves hard put to it to explain the reason.

The report of Whitaker Munro, chief scientist, was generally accepted as the correct one. Inner earthly pressures, pent up through ages except in unsatisfactory escapes through volcanoes and geysers, could no longer be denied. Vastly superheated gas in the earth's core was expanding relentlessly, and in consequence something had got to go. The shift in the earth's rind was, by comparison with the main pressure, almost infinitesimal—but it was quite sufficient to cause unparalleled havoc. The merest rise or drop in supposedly solid land, when it takes place in an instant, can shatter man's creations entirely.

Hour after hour, day and night, reports screamed through the tortured ether, filled earth's peoples with horror. Already South America's greatest cities lay in ruins; thousands of people were fleeing before the greatest floods in history as Atlantic strove to meet Pacific across the quaking, crumbling country.

The same upheaval sent titanic tidal

waves crashing inward on all the western coasts of the States, produced an inevitable flood which roared inland as far as Nevada and Idaho. The Bering Sea was advancing inexorably into Siberia; Greenland was subsiding hour by hour. Far out in the middle of the Pacific a new and tremendous tableland was forming. All earth's geological formation was altering, sweeping untold thousands to doom, smashing away the creations over which mankind had labored for generations.

So far New York was untouched. Most of the eastern American seaboard had escaped, beyond the incessant rain which flooded the streets and made it next to impossible for the sewers to carry away the weight of water. Inevitably they would finally block themselves up, then indeed serious trouble would begin.

Terry, in the Corporation building, was not in such a bad position. His quarters were in the building itself; everything he needed was supplied by the vast place. And further, the great walls around the building, together with the solid gates, were sufficient to keep any flood waters at bay for many days if necessary.

Most of the time he was kept constantly occupied in arranging for rescue work. In the few quiet intervals he wondered how Conway was faring on the African job, a wonder which deepened to genuine alarm by the third day and there was still no news. Then around 2:00 o'clock Conway's clipped voice came over the short wave radio.

"Terry?"

"Speaking," Terry answered, fingering the dials. "What's the matter? Where've you been all this time? Moving the people?"

"Got rid of them a long time ago; the rest of the squadron will be home any time now. I got separated from

them in the storm and went over the Northern Sahara— Right now I'm in the middle of the desert and it's raining like hell. In fact I shouldn't be at all surprised if the whole desert goes down one of these days and forms the bed of an ocean."

Terry frowned at the instruments. "Well, what the devil are you taking such a risk for? Come on back!"

"Not yet. Give me time to finish, can't you? Truth is, I've found something queer—it's been revealed by the earthquakes and unexpected flooding around these parts. I've found a metal dome in the sand, some sort of metal that's tougher than anything I ever struck. I guess only a flame gun would go through it. This dome's about forty feet across and the base goes down into the sand. Must have been buried for centuries. Seems to me it ought to interest Munro, and you too. How about it? Can you come and bring equipment with you?"

"Well, I don't know what you're rambling about, but I'll come," Terry answered. "I'll drive a globe over myself. I'm about the only one to handle it in this storm. Munro's no pilot."

"O. K. Radio me when you're near Africa; I'll direct you."

Terry switched off and puzzled to himself for a moment. Dome in the Sahara? He shrugged, switched over to the science department and contacted Munro. Ten minutes later he arrived, accompanied by Dawlish, his assistant, carrying various small but efficient scientific instruments.

The six foot four, bald headed scientist was in ecstacies. He rubbed his long clawlike hands together eagerly.

"Dome in the desert, eh?" he breathed gleefully, his pale gray eyes losing something of their frigidity. "Is that something!"

"Probably a mirage," growled Daw-

lish, his round, fleshy face anything but pleased. "The idea smells if you ask me."

Terry grinned faintly. "So far as I know, Munro, Conway really thinks he's found something. We'd better go and look."

"Most decidedly!" Munro struggled into oilskins, flattened down a sou'wester over his dome. He looked oddly like a lamppost wrapped in cellophane as he swung to the door.

"Well?" he demanded, toothbrush black eyebrows shooting up. "What are we waiting for? Come along . . ."

Terry waited only long enough to hand over his work to the capable Davies, then followed the scientist and Dawlish onto the rain swept expanse of tarmac outside.

The vast winds and vortices raging in the tortured atmosphere more than once nearly defeated Terry's efforts. The stratosphere globe rolled and pitched wildly under the impacts, gained and lost altitude constantly—but very slowly, due to superb airmanship, it finally began to climb gradually over the storm areas, higher and higher into the angry gray that was the afternoon sky. Up and up to the calmer heights, until at last the wind dropped and Terry felt safe to drive forward.

He gave the machine maximum power, hurtled through the nearly airless spaces to the east, right out across the Atlantic, hidden under its boiling scum of storm clouds, guiding the course entirely by the map's directional pointer. Half way across the ocean a squadron of globes hove out of the distance—the rescue fliers returning from the African excursion. Briefly they flashed a signal of greeting, then continued on their way.

One hour, two hours, three hours—and the three thousand mile trip over the Atlantic began to near its end.

Terry drove down into the murk, staring anxiously at the pointer, then through the rain smeared windows. The wind here was not so strong, nor the deluge as severe. None the less the old North African aspect of blazing sunshine had gone—the whole landscape lay under scudding storm clouds as the globe dropped below them and swept at decreased speed over the vast wastes of the Northern Sahara.

Terry snapped on the radio. In a few moments he was speaking to Conway and following his directions. In half an hour his lone stratosphere globe loomed up in the distance, seemingly unusually small by comparison with the massive dome standing in the background against the stormy sky.

"What the Sam Hill is it?" breathed Dawlish in amazement, squinting between the raindrops on the window. "Looks like the dome of a buried city, or something."

The lofty Munro shook his head. "Not very likely. No city has been unearthed in the Sahara in all its existence."

"Soon find out anyhow," Terry remarked, bringing the vessel to a standstill.

He scrambled into his oilskins, opened the lock and walked across to where Conway was standing by his own globe. Munro followed up in the wet, sloppy sand, his pale eyes narrowed with interest under his dripping hat brim, Dawlish, carrying the well covered equipment, regarded the towering metal dome in some disgust.

"Meteor, I'd say," he growled. "Been buried under the sand all this time."

"Did you ever see a meteor with rivets in it?" asked Conway significantly, then seeing the looks of amazement he went on, "I investigated further after radioing you. Just under the sand, at the base of the dome, is a complete line

of rivets. This top dome is just the end of a huge metal ship of some sort. Maybe even—even a space ship. . . ." He wound up as though he wasn't at all sure of himself.

"Certainly nobody could ever have transported a thing like this into the Sahara," Munro commented, moving toward it. "It must have dropped from the skies, if anywhere."

He studied the metal of the thing closely for a time, finally shrugged his narrow shoulders. "No idea what it is—neither steel nor iron."

"What'll you have, chief?" Dawlish asked briefly. "Flame gun?"

Munro nodded abstractedly, rubbed his pointed chin.

"If the total length of the ship—granting this is part of one—can be judged from this, it must go a tremendous distance under the sand. . . . O. K., Dawlish, get busy."

Dawlish uncovered the gleaming tube of the flame gun and pressed the contact switch. Instantly the internal motor sent a withering line of fire against the metal, set it glowing to white heat in a moment. The men watched through half closed eyes, Dawlish himself staring through the gun's blue shield.

Far swifter than the old fashioned oxyacetylene welder, it carved a large circle out of the metal within twenty minutes, destroying the atoms thereof and converting them into energy. Finally a powerful kick sent the piece of metal tumbling inwards, wherein it clang'd noisily and seemed to fall for a tremendous distance.

The men glanced at each other uneasily for a moment.

"Hollow all right," Munro commented. "Hope we didn't break anything."

Turning suddenly he leaned through the gap and flashed his torch around. He withdrew with a puzzled face.

"Looks like some sort of a shaft," he said. "Or the hollow inside of a long cylinder. Take care in coming through the opening, else you'll drop Heaven knows how far. There's a small ledge just below the gap we've made, part of the join in the metal where the rivets are fitted. Wide enough to stand on, with care. Follow me."

He went inside the opening and vanished presently from sight. Terry followed him up, found he was indeed standing on a narrow ledge, some interior binding ring of the perpendicular ship.

Cautiously he tugged out his own torch and flashed the beam below. At perhaps two hundred feet depth, where the light hardly reached, it was reflected back to him with a faint glitter.

"Glass?" he asked Munro—but the lanky scientist had found a metal ladder in the wall and was already clambering down it, his torch waving erratically. Half way down the abyss he stopped and shouted, his voice echoing weirdly.

"Say, there's a manhole lock right here. Must be about a hundred feet below desert level. . . ." Silence for a moment, then, "It must be locked on the outside; no sign of a clamp or screw here—only a sort of automatic device."

He continued the downward climb again, Terry now following suit. Immediately above him, treading warily, were Dawlish and Conway.

Terry stopped at last as he alighted on a curved wall of transparency that was clearly glass. For a long time he and the others flashed their torches round, studying the massive gyroscopic bearings in which the entire internal glass globe was supported, so designed that it swung upright no matter how the outer case twisted and turned.

"Look down there . . ." murmured Munro, and his beam passed through

the glass under his feet to train on a neat and orderly control room, a mass of machinery grouped at one end and connected to a switchboard, before which stood two metal chairs.

"It's a space ship all right," he went on pensively. "I wonder if it is possible for—" He stopped abruptly as Terry's torch beam flashed idly down. Suddenly he gasped out, "Say, what's that? A little more to the left—*There!*"

Silent, utterly dumbfounded, the quartet stared down. To the left of their position, lying on the floor of the globe, was a motionless figure—the figure of a girl, bare arms outflung, her slender form draped in the briefest of garments, her feet encased in dainty sandals. Black hair lay draped around her shapely head.

"A woman!" Munro looked up in blank amazement — then recovering himself he hit the glass forcibly below him with his heavy boot. It made not the least impression. Irritated he swung to Dawlish.

"Flame gun, man—quick! The glass is as tough as the metal. Come on."

"O. K.," Dawlish grunted. "But I don't see a few minutes longer will make much difference to the dame. She must have been here since the Sahara was born, anyway." He angled the gun and released the switch.

The glass was by no means easy to break even under the blasting power of the flame gun, but it did finally fuse and begin to splinter, melted queerly and dropped huge globules of boiling substance below. Air sighed into the hole.

During the operation Terry glanced further along the dome—beheld the piece of metal they had smashed out of the ship's wall. The glass had not even cracked under the impact.

"Right!" breathed Munro suddenly,

and slid through the gap in the glass, dropped the twelve feet to the floor below—likewise glass. One by one the others followed him, stood at some little distance in the stuffy, circular chamber, gazing at the motionless girl.

"What do we do now?" asked Dawlish uneasily. "I'm all for getting out of here. It's giving me the jitters."

Nobody spoke. Terry went slowly forward, torch firmly clamped in his hand—But long before he reached the sprawling girl he stopped in frozen wonderment, the circle of the beam playing on her outflung right hand. On the second finger was a ring, its stone blazing with sullen fires! He'd know that ring anywhere. Elsa Dallaway had been placed in the mausoleum with it on her hand. . . !

Mistaking Terry's motionlessness for uncertainty, Munro strode forward, gently caught the girl under the shoulders and turned her over so that her face fell in the area of light. Immediately he dropped her, even his scientific calmness shattered.

"My God!" he whispered hoarsely. "My God. . . ."

"It's—it's Elsa!" Terry screamed suddenly, twisting round from staring at that dead white face and closed eyes. "Oh, Heaven, it's Elsa! I can't stand this place, Munro; I'm getting—"

"Take it easy, Terry!" Conway came up grimly from the shadows, seized Terry's arm in a grip of iron. "Don't go off half cocked!" he snapped. "This can't be Elsa; all reason's against it. She's in the mausoleum. Relax, I tell you!"

Quivering with emotion, Terry made a terrific effort to master himself. He turned back dumbly to the still, beautiful figure on the floor, let his torch rays play on the face. The girl resembled Elsa to the last detail, looking just as she had in her tomb. The only

difference lay in the clothing. gingerly he touched the slender bare arm—then he recoiled with a sudden gulp of horror as the girl shivered momentarily, trembled, then collapsed into a mass of dust which swirled in the wet wind blowing down through the two holes from the exterior. . . .

A tinkling noise, and the ring fell from where the hand had been to lie in blazing solemnity.

Stunned, the four men stared fixedly at the spot from which the girl had utterly disappeared.

CHAPTER IV

The Meaning of the Jewel

AT last Dawlish spoke.

"Chief, we're seeing things!" he cried dismally. "Please let's get out of here!"

"Four perfectly sane men can't see things," Munro retorted, his pale eyes contracted in thought. "Use your brains, man! This space machine has been sealed under the desert sands for Lord knows how long. No air has been able to get inside this double shell. That girl probably died in the first instance from suffocation, after which she just lay where she'd fallen for thousands of years. She couldn't decay visibly because of lack of air—but the instant air surged in normalcy reasserted itself. Long extinction passed suddenly to its normal state and she just collapsed to dust, her clothes going with her. Other things will start to deteriorate rapidly as well, but of course machinery is tougher than flesh and blood and fabric."

He bent down and picked up the ring, turned it over musingly under the torch beam.

"At least that's Elsa's ring!" Terry whispered, staring at it. "I'd know it anywhere."

Munro laughed shortly. "Then your powers of observance are mighty poor. I had occasion many times to see Miss Dallaway's ring at close quarters before she died—and it differed in one degree from this one. The claw on this stone has six prongs; hers had only four, like a massive solitaire. Identical stone, certainly, and just as unclassifiable as hers. Another thing, her ring was a trifle too large; this one is a tight fit—or rather was."

"Then—then the girl?" Conway asked in bewilderment. "I'd swear anywhere that it was Elsa Dallaway."

"An uncanny likeness, I admit. . . ." Munro frowned. "For a moment I was completely deceived myself—but consider!" he went on impressively. "Forgive the gruesome details; they're necessary. Miss Dallaway, by this time, will be in a state of visible decomposition in the mausoleum. Even if by some mad fluke we admitted that she could have been transported here, nothing so ordinary as fresh air could have accelerated her decomposition so much as to make her vanish into mere dust. Besides, I repeat, the clothes were not the same. The girl who vanished was not wearing a shroud—No, no, the girl was not Miss Dallaway, but practically her twin, wearing a similar ring. Mystery—profound mystery, and somewhere it had a solution. What's more, we're going to find it."

He tugged off his oilskins actively, rubbed his hands.

"Dawlish, throw down a couple of light extensions from the globes on the surface, then we'll be able to see what we're doing. We're going to solve the mystery of this ship if we stop here for eternity. We've food enough in tabloids to last for a month, and there's no time like the present. Let's get started!"

Munro went to work with the air of

a master mind, turned all his ruthlessly analytical faculties to bear upon the mystery of the machine. Terry was filled with complete bewilderment, not unmixed with horror. This sudden and incredible happening had only served to stir up the unhappy memories he had been trying to outgrow.

Dawlish and Conway, having no emotions to overcome, went about their part of the business with relentless thoroughness. They made their headquarters inside the vessel, had meals there, slept there, spent all the time piecing the problem together, entirely oblivious to whatever grim happenings were taking place in the world outside. Their only contact with external events was the radio and the incessant howling of the wind down the shaft they had made. Corporation headquarters had been advised that they were busy on an important investigation, and there the matter finished.

One thing soon became evident. The glass globe control room was beautifully poised in the center of the ship itself, swung so perfectly even yet that it tilted gently when the men gathered in a group at one end of the place. The airlock of the glass globe was so perfectly let into the glass, so much a part of it in its sealed efficiency, that it took a surprising time to find it.

Even then it could not be opened—nor would ordinary blows splinter the glass. Only the flame gun did that, and once underneath the globe in the lower part of the perpendicular ship the four made the surprising discovery that the glass door had been locked on the outside—just as had the airlock on the outer shell. Somebody had gone out of the ship, bolting the doors on the way, and had never returned. The girl, shut inside, had died horribly. The discovery of empty oxygen tanks inside the globe were proof in themselves of

the effort the girl had made to preserve her life, until at last the supply had run out.

In the very nose—the bottom—of the upended ship was a strange contrivance of electrical machines, all cupped in the very core of the nose and attached to a cable leading back through fused terminals in the globe to the internal switchboard. Munro's cold eyes followed the cable steadily, became thoughtful.

"This machinery can't surely be for motive power?" he muttered. "If it were, they'd surely have put it on the floor of the ship instead of in the nose? Wonder why the devil they tilted it on end like this—"

"Say, do you hear something, chief?" Dawlish broke in tensely, and the four of them stood in absolute silence in the reflected light from the illuminated glass globe above.

Presently they detected the noise to which Dawlish had referred—a deep, far distant roaring noise seeming an incredible distance down in the earth itself. There was something frightening about it—a suggestion of colossal power, or wind, hemmed in by unknown forces and striving for an outlet. It sounded oddly like a gale blowing through a subway tunnel.

"I don't like it," Conway muttered with an uneasy glance. "It sounds just as though something is going to blow up!"

"In the present state of the earth's interior anything may be causing that sound," Munro answered. "Internal upheavals beyond doubt, the sound being conducted through the ground. It does sound weird, I admit.

"But what puzzles me is this confounded machinery. The more I look at it the less it resembles motive power. Looks for all the world like apparatus for relaying radio waves, though I don't

see how the devil that applies."

He studied it again, shrugged his narrow shoulders, then returned to the glass control room and became absorbed in thought before the switchboard. For a long time he studied an object like a camera, its entire squat bulk tapering to an unlensed nozzle. With painstaking care he measured its distance to the two chairs before the control board, sat in the chairs themselves and studied the straps on the arms and back, straps that were already showing signs of rotting now the air had gotten in.

When he had completed his notes on the switchboard he set about the projector again, examined the complex system of clockwork like devices inside it. Apparently satisfied he then took the girl's ring and subjected it to an exhaustive series of tests with the scientific apparatus he had on hand from the stratosphere globe at the surface.

What line his reasoning took none of the others could guess. They only noticed that his work needed the flame gun several times; that at one period he seemed lost in a daze, almost as though he were intoxicated—then, recovering, he went to work again, tight lipped, non-informative, driving to the root of the puzzle with all the cold incisive reasoning of a detective solving a murder.

For two days he continued his prowling, thinking, and examining, only emerging from his pensiveness when Terry, by the sheerest accident, happened to discover a hitherto unnoticed inlet cupboard which formerly had been mistaken for a small pillar by the switchboard. Surprised, he stared at the thin metal rolls that tumbled out.

Instantly Munro pounced on them, took them eagerly to the experimental table and stretched them out, stared down on them with the others gazing eagerly round him.

"Hieroglyphics—not unlike Ancient Egyptian," breathed Conway. "Looks as thought they've been done with a stylus, or something. Metal instead of parchment."

Munro's bald head was nodding slowly. "Hieroglyphics that may explain the whole knotty problem," he muttered. "I guess the only person likely to solve them is Wade, back at the Corporation. Dead languages and codes are his only delight in life—Haloo, what's this?"

He had turned to the next metal sheet and frowned over the diagram thereon. It represented a perfectly drawn, rather pointed ellipse with a circle in the center, poised perpendicularly over something that resembled a cylinder, at the base of which was another, smaller ellipse around which were grouped objects that might be machinery. At the base of the cylinder were wavy lines.

"Say, it's this very space ship!" Terry exclaimed suddenly. "Look, this round thing in the center of the perpendicular ellipse is this globe we're in right now. The ellipse is the ship, and the cylinder it fits in is tapered all the way down so that the ship is wedged at the top. Guess I'm stumped, 'specially the wavy lines."

"Given time I can probably work it out," Munro said briefly. "You, Conway, had better take this hieroglyphic message back to headquarters and get Wade to work on it right away. Radio to us the minute you know anything. Now get going."

"Right!" Conway took the metal sheets and departed swiftly, leaving Terry and Dawlish watching intently as Munro turned to the next metal sheet—the last one. It had engraven upon it the unmistakable formation of a city. Munro stroked his chin; Terry stared at it fixedly, a memory of words drifting like a forlorn echo across his mind.

"A city so beautiful. It crumbles . . . down it goes!"

A city? Elsa Dallaway? The woman who had crumbled to dust? Two rings. . . . He shook his head wearily, wandered off across the room as Munro settled down to another long spell of concentration.

Munro brooded throughout the remainder of that day, was still tireless when Terry and Dawlish made up their makeshift beds and gratefully lay down. Only one solitary globe illuminated Munro as he sat in thought, his bald dome shining like a great egg, his eyes mere chilly marbles as he stared into space.

Terry closed his eyes, listened to the eternal whining of the wind down the great shaft and, below it, subdued yet insistent, the muffled, thundering mystery that lay beneath the space ship's nose. He began to doze, began to dream—

Then he was suddenly and violently awakened. Wincing in the light of the solitary globe he stared up into Munro's face. For once the scientist was actually eager, shaken out of his dispassionate calm. Dawlish still slept heavily, emitting the snores of one at peace with the flesh.

Munro squatted down, tugged out a foul pipe and lit it. Solemnly he said, "Terry, I think I have it—at least part of it."

"You have!" Terry sat up wakefully, silently forgave the violence of his departure from slumber.

"Right now," Munro said slowly, "we're sitting over a shaft some five miles deep, up which are trying to escape Earth's inner forces in all their fury. Only they can't because a gigantic valve of metal—probably the same incredibly tough metal of which this ship is made—holds them back. Only an atom smasher can fuse this metal,

not mere pressure alone, no matter how strong."

Terry stared blankly. "You sit there so calmly and tell me that!" he gasped. "What the hell are we doing risking it? And anyhow, how do you know all this? Who'd be nuts enough to sink a five mile shaft anyway, even if they could?"

"When you've disentangled your anything but clear remarks I'll continue...." Munro had the cold iciness now that always came to him when he was dead sure of himself. "The measurements on the diagram we found show, that by comparison with the ship, the tapering 'cylinder' below its nose—which is actually intended to represent a shaft—is all of five miles depth. The wavy lines are earth strata. It's simple enough to see that the shaft has direct access to the inner furies boiling up from Earth's very core through innumerable seams and natural tunnels. Gases, lava, inconceivable pressures—some of them escaping, but a vast majority held back by a gigantic valve. That is this—" and he stabbed the metal diagram with his pipe to show the small ellipse in the bottom of the "cylinder."

"It is pretty evident that whoever built the shaft knew that it would directly connect with a great natural inner fault extending maybe thousands of miles into the earth—and thereby the main outlet for inner pressures. How this fact was discovered we don't yet know. Now, the machinery sunk in the nose of the ship is of radio design; that we know already. It's operated from the switchboard inside the globe here. In the small power plant is a bar of copper. It's pretty certain the genius who built this ship had solved the secret of atomic energy's inexhaustible power. Using this energy, the switchboard transferred it to the radio machinery, waves were generated, and they in turn reacted on

the giant valve at the bottom of the shaft. Under the influence the valve would turn aside into an inlet. See this drawing again. . . . There's distinct evidence of some kind of machinery round the valve. Anyway, that's the way I figure it."

"But," Terry pondered, "if that happened the ship would go up like a rocket before the blast from the shaft!"

"It would go out into space far beyond the pull of Earth's gravity field," the scientist nodded complacently. "Now do you see?"

Terry frowned. "So far as I can make out some master mind planned to use the earth's natural forces to fire this space ship into the void. He had no motive power of his own so created a vast cannon of natural power. But why, Munro? What good would it do to just get fired into space?"

Munro debated. "As yet we don't know the reason for this desire to leave earth," he murmured. "One or two facts are clear. The people responsible were definitely Earthlings and not, as I at first thought, inhabitants of another world sojourning here. Nobody from another world could be so like Earthlings as that woman we found. Again, there was once a city around here which finally became buried under sand. Lastly, the people were far ahead of us in scientific knowledge, but even so actual space travel was one thing they had still to solve. The point I stumbled over was the matter of strain on being fired from this shaft. They would hurtle outwards at such a terrific pace that living flesh and blood could not stand it. That's where the ring comes in."

Terry gazed wondering as Munro showed the dissected ring in his palm.

"I tried everything I could think of to get some reaction out of this ring, but I got nothing until I tried it in the range of the flame gun. With the flame gun I

smashed up a piece of metal, and since the gun works on the principle of forcing electron and proton into contact in order to destroy atoms, it of course produces cosmic waves in the process—a small scale replica of the vast radiation floods going on eternally in outer space. The instant the cosmic waves radiating from the smashed metal reached the stone, a tiny needle actuated by a spring shot out of the ring circlet and just as quickly went back again. After that, I took the ring to pieces.

"Actually, Terry, the stone of the ring is a beautifully made prismatic device, gathering cosmic rays and concentrating them on a mechanism which releases a spring. The spring thrusts out the needle just once into the wearer's finger, then snaps back. Once I had the ring in pieces I saw that the needle was really coated with some fluidlike stuff—in truth an enormously powerful drug."

"What!" Terry gasped blankly. "How do you know that?"

"Remember a period a little while back when it looked as though I was drunk? That was after trying an infinitely small percentage of the needle's contents. Had I taken the whole lot I'd have been utterly paralyzed, I guess. From chemical analysis it is quite obvious the drug is a brilliant combination of chemicals for producing suspended animation—No, wait a minute! Let me finish. The drug lies

in one-half of the ring—but in the other half is an antidote and a second spring. That second spring is released not by cosmic waves, but radio waves. The stone can deal with either."

"But—but why all this planning and arranging with a ring?" Terry demanded.

"Quite simple. Let us assume that this plan for firing the ship had succeeded. What would have happened? The occupant is sat in the chair by the switchboard there, presuming for a moment there is only one person present. The pressure is weighing him down as he hurtles through Earth's atmosphere—he can't lift a finger to help himself, can hardly even breathe. The straps are secure round his limbs—So, out into space!"



Instantly cosmic rays surged through the ship, reacted on the mysterious ring

"Instantly cosmic waves surge through the ship, react on the ring stone. Needle stabs, drug fills body and suspends all its faculties, destroys breathing and heart beats—makes it possible for that inanimate mass of flesh to move at frightful speed without any injury to organs. Then what?

"Gradually the ship's speed becomes constant. In that projector by the switchboard is clockwork radio machinery. Without doubt it would be set in action before the start of the journey, timed to release a switch when, by calculation, the ship would have reached a constant velocity and acceleration would have ceased. A radio wave from

the nozzle like end of the thing strikes dead on those chairs before the switchboard—strikes the ring on our figurative traveler. The antidote works and he revives, none the worse, sets about his plans for a landing and guiding the ship.

"That too could be done easily enough by recoiling radio beams, exerting sufficient pressure in striking a planet to easily swing the ship as desired and break the fall when the desired world is reached. The mightiest difficulty—pulling against gravity from Earth—has been overcome. Now do you understand?"

Terry was nodding slowly, a multitude of thoughts chasing through his brain.

"You've—you've definitely proved the antidote works with radio wave reaction?" he asked slowly.

"Beyond question—but as yet I don't know the wavelength."

"Then the whole thing was really a gigantic effort to leave the earth by automatic means?"

"Exactly. And there were probably two people here—the girl and somebody else. At the last minute something went wrong and the journey was never made. The girl was left to die, and—"

Munro broke off in surprise as Terry gripped his arm tightly.

"Munro, do you begin to realize the truth?" he whispered, his eyes bright with anxiety. "Do you understand what you have found? *Elsa is not dead!*"

The scientist's cold eyes stared back levelly. "Take it easy, Terry! After all—"

"I mean it!" he cried hoarsely. "I remember now! When she came with me on that stratosphere trip she was testing cosmic waves. Her ringed hand couldn't fail to be in the path of them

because it was right before the window. Cosmic waves won't go through a stratosphere globe's walls, but they will through the window. Her ring must have been like this one. She got the benefit of the drug—" He broke off, breathing hard. "She did not really die! She only went into suspended animation. . . . Oh, my God, we've got to do something quick! Give her antidote—anything! Smash her ring open and give it to her—"

"What the hell's going on here?" Dawlish stirred among his blankets and looked around blearily. "Let a guy get some sleep, can't you?"

"Never mind sleeping; come here and listen!" Munro snapped; then he turned back to Terry. "Guess you're right about Elsa, Terry. I didn't know the real circumstances about her actions in the stratosphere. Certainly she'd get the full blast of cosmic waves on that ring. We've got to think this out carefully. Can't rush at it. One slip up, and she's dead forever. Can't use the antidote from this ring; I used it all up making experiments."

"Then smash the ring she was buried with!" Terry implored. "Can't you see what it means—"

"Of course I can, but your idea's too impetuous. Smashing her ring may lose the antidote utterly. No; the only thing to do is to analyze that radio projector there and find the exact wavelengths it generates. Then we can either take that projector with us, or else know enough about it to duplicate it. With that idea we can turn the waves on Elsa's ring from the mausoleum itself and, we hope, revive her. Let me see now? In her tomb she has no air— Hmm, not that it matters. To all intents and purposes she is dead. Yes, only thing to do is to find the wavelength."

"What's all this about?" Dawlish de-

manded.

"Terry will tell you that." Munro scrambled to his feet, tireless as ever. Then he paused suddenly. "Say, we've gotten this far," he mused, "but how the devil did Elsa get hold of a second ring anyhow?"

He turned, shrugging, to the projector and Terry turned to explain matters to Dawlish. He explained very sketchily. One thought alone was drumming through his brain—Elsa Dallaway was alive! Locked in a tomb through some odd twist of time and circumstance which had still to be unraveled.

CHAPTER V

A Race Against Doom

TOWARDS dawn, as Munro still labored over the analysis of the radio projector, the normal portable short wave apparatus suddenly came into action. Immediately, Dawlish crossed to it, clamped on the headphone and began to write steadily. He continued for twenty minutes, then broke the contact and turned.

"Conway, Chief," he announced briefly. "Seems Wade can't solve the puzzle entirely, but he's managed part of it. It is mainly in very old Egyptian and Arabian language, intermingled. He's substituted modern terms for ancient numbers and distances."

Munro took the notes from him and read them aloud:

"... our city is falling into ruins. Few of our people can survive. The three thousand year (?) cycle of surface change is here. . . . Hurricanes sweep by, driving the sand before them—the sand of an ocean bed, the waters of which have receded to smother a vast but fortunately deserted continent. . . . Sand. . . . Our city will perish

beneath it. The people do not believe. . . . Thensla and I can escape perhaps — The second planet (Venus?) is a possible world. Yes, we can escape, take a chosen few with us. The few who still do believe. . . ."

Munro turned the page avidly, went on to the next one.

" . . . I believe I can accomplish a double purpose. The problem of leaving Earth can be overcome. X-rays (?) reveal fault leading to core of disturbances—five mile (?) division of earth and rock between core shaft and surface. . . . Shaft of five miles (?) could be sunk with valve of *drulux* (some kind of metal? Wade) at its base, operated by radio control. . . . Blast would fire ship into space and release Earth's inner pressure to such an extent that the upheavals would cease. Some of our race would perhaps survive. Three or four thousand (?) years will elapse before it comes again. Thensla, myself, and those who believe will travel to this second world; radio beams will land us safely. Our friends we shall place in suspended animation to commence with. We ourselves will use the rings. I cannot—'"

The message ended abruptly. In wonderment the three men stared at each other.

"So there definitely *was* a city here three or four thousand years ago," Munro breathed. "Buried under the Sahara sands, which were brought hither by hurricanes blowing over the sea bottom of a receded ocean. The people belonged to Earth, were an ancient civilization of tremendous knowledge. And why not? Time and again science has proven the ancients to be far cleverer than we. It is even possible that this race was the basic cause of all past mysteries and miracles. Science, of enormous power, was lost when upheaval swept over the world.

"Who wrote this record? Was he the father, the husband or the lover of the girl Thensla? We will call him the Recorder, for convenience. And why is Elsa so much like the vanished Thensla? Only Elsa herself can perhaps provide the solution."

"No question of it!" Terry exclaimed. "Even as she lay apparently dying in the hospital she spoke of things exactly matching up with the events described in this record."

Munro debated for a time, said thoughtfully, "Most amazing! May have something to do with Time itself." He shrugged. "However, that we'll know later. What we know now is that the Recorder hit on the sublime idea of saving the earth and blasting himself and those dearest to him into space at the same time. It didn't work for reasons still unknown. But *this* time. . . . Good Heavens, don't you see?"

"You mean that if we release the valve we blow this unwanted ship into the void and expend all—or at least nearly all—of Earth's internal tumults at one go?" Terry asked quickly.

"Of course—even as a locomotive's excess steam escapes by the safety valve. In truth this shaft is the Earth's safety valve because it has direct path to the core. The Recorder's X-ray showed that. On the last occasion the valve was not moved through an unknown mistake and the havoc went on until the pressure escaped through volcanoes and constant earthquake. This time no such thing will happen because we'll release the pressure. At one terrific blast the entire mass of inner gas and steam will go off, hurl this ship into space in the process. What happens to it is, of course, immaterial."

"But we'll have to control it from inside here," Dawlish objected.

"Not necessarily. The Recorder wanted it that way, of course, but

there's nothing to stop radio waves operating from a considerable distance, provided they're directed properly. We can, if necessary, shift that valve from as far away as New York. In fact, for safety, that's what we'd better do. The shock of the uprush will be felt the world over."

Munro wasted no further time on words. He turned back actively to the completion of his analysis.

Six more hours brought Munro to the end of his analysis of wires, coils, tubes and controls—an analysis that had filled a comfortably thick notebook. He made no immediate observations on his conclusions, simply fell asleep exhausted. When he awoke again it was late afternoon.

"Well, did you get everything?" was Terry's anxious demand.

"Yes, I got it." Munro rubbed his unshaven chin. "But we'll have to make the apparatus. That stuff there is beginning to fall to pieces. Thing to do is to head for New York right now."

Neither Terry nor Dawlish needed a second invitation. They had their equipment already packed and ready. Quickly they moved to the ladder outside the globe and climbed up to the gray hole giving egress to the surface. The moment they poked their heads up the cyclonic force of the wind thundered into their faces, filled with driving rain and stinging sand grains. Battling against it they gained their stratosphere globe and tumbled inside.

Instantly, Terry moved to the controls, slammed them home the moment Munro had closed the airlock. Tugging and pulling, the globe struggled into the upper reaches, battled through the midst of the clouds to the quieter regions, and onwards in a westerly direction.

The view was unchanged. Below swirled the eternal boiling scum of clouds. When, three hours later, they dropped once more they were met with a vision of rolling waters entirely inundating vast portions of America's eastern seaboard. The sea, driven with hurricane force and turmoiled by the upset of earthquake and tremors, had spilled over into New York itself, marooning the towering buildings, obliterating the storm-lashed harbors. Presumably the same conditions existed all along the coast.

"We've got to step on it!" Munro cried in anxiety. "It looks as though the whole continent is slowly going down. If only we have the time to release that safety valve we can still save a greater part of it. Get all you can out of her, Terry!"

Terry did not answer. He was already hurling the globe at maximum speed between the towers of Manhattan, staring below on streets that had become rivers, at edifices gleaming with the lashing deluge, on numberless windows through which stared countless faces.

Twisting and turning, he made for the Corporation grounds, beheld them at last with a tumbling lake where the tarmac should have been, the walls standing up in lonely isolation.

"Guess we'll have to float," he snapped out. "Water's through the walls at last. Stand by for a bump."

He brought the ship down with a resounding smacking splash: it reeled wildly, finished on even keel by the weight of its floor engines. A boat started out from the marooned Corporation building, presently gained the vessel's side. It was Conway's rain smeared face that appeared in the opened airlock.

"Been watching for you coming," he explained. "Why didn't you radio—?"

"No time," interrupted Munro briefly. "How are things going?"

"Pretty bad. Practically all the western states have subsided under the Pacific, and—Well, I guess we're isolated here completely, with food fast running low." He stopped, smiled faintly. "Find anything worth while in Africa?"

"Probably the answer to everything," Munro responded. "Let's get across to the building; there's work to be done. How about the laboratories? Still above water?"

"Yeah—but I can't say for how long."

Munro climbed purposefully through the airlock, the others following up behind him.

For days afterwards Munro was a tornado of energy, working now with frantic desperation against time. Fortunately, the laboratories were on the upper floor and, as yet, safe from the flood. The huge self contained building still provided all the necessities of life, but there was no guarantee how long they would last.

Terry fretted around in helpless anxiety, watching Munro urging his radio engineers onward in the construction of two projectors—one a small affair no larger than a good sized valise, and the other an almost exact replica of the apparatus he had studied aboard the sunken space ship. Hour by hour coils were wound with precise number of turns, condensers fashioned, banks of tubes arranged, special long storage batteries manufactured.

Terry wandered from room to room of the building, gazing through the windows onto the surging flood waters, listened over the radio to the events transpiring in other parts of the world. They were reports that carried the news of death and suffering.

In the United States in particular

havoc was abroad. Overflowing rivers and tempest driven seas were twin enemies, sweeping out entire states with ever spreading waters. Farms, outlying districts, villages and cities were all being cut off from one another. Whole cliffs were collapsing, mountains crumbling under the force of incessant earthquakes, dams cracking under the weight of waters and releasing boiling cataracts into valleys below, before which nothing could stand.

Hour in, hour out, tens of thousands of people were fleeing for whatever safety they could find. America, England, Europe; everywhere it was the same. Doom was fast stalking the bursting, groaning world.

Deeply though the news moved him, Terry's thoughts were mainly on the Dallaway mausoleum. Suppose the flood had reached it, had even drowned the girl as she lay in her tomb? That was the thought that anguished his mind. Of course, the mausoleum was on the Dallaway estate outside New York, situated at the top of rising ground. It was just possible that it might so far have escaped.

For three days he wandered round moodily, then at last Munro burst into the headquarters office, his pale eyes gleaming with satisfaction.

"All set!" he announced crisply. "It's been a hell of a job, but we've made it. One beam radio projector is fixed right here in the building, can easily be trained and guided so that its waves will affect the machinery in the Sahara. Range is well over seven thousand miles, and that's ample. The waves of course will affect anything else they impact on the way, but that doesn't matter since, so far as we know, the Sahara machinery is the only apparatus likely to react to that particular periodicity.

"Our own set is smaller, and portable. Can't take any chances: to be

dead certain we've got to be within inches of Miss Dallaway. Well, are you ready?"

"Ready and waiting!" Terry followed the scientist eagerly from the office, wrapped himself in oilskins then went down to the waiting motor boat, Dawlish carrying the small transmitter. Conway had stopped behind to release the giant transmitter on the stroke of three o'clock—two hours hence.

Terry switched on the boat's engine, sent the craft chugging actively through the streaming, muddy waters. Steadily they went on through the tumult, rain pouring remorselessly into their faces. Once they had left the confines of the flooded Corporation grounds they headed out city by way of the river-streets, pushed onwards through a natural stormbound Venice across a flooded park, until at last in the somber light of the wild afternoon Terry gave a shout.

"There, Munro! There's the hill! Thank God the waters haven't risen that far yet!"

The scientist gazed at the rising ground in the near distance, the huge granite mausoleum standing in lonely majesty against the storm sky. Further down the slope, the Dallaway residence was flooded to the upper windows, entirely empty of staff. Trees pushed out forlornly from the racing waters.

At last the boat grounded, but some seconds before that happened Terry was out of it and plunging ankle deep in sloshing mud up the slope, bending against the screaming wind and rain, only stopping in breathless anxiety against the sodden heavy oak doors.

"They're locked!" he cried hoarsely, swinging round. "That's something we didn't reckon with — The steward'll have the keys—"

"Be damned to the steward!" Munro

retorted, gazing under his dripping hat. "I'm ready for this. Dawlish—the flame gun!"

"Right, chief!" Dawlish tugged the instrument out of his oilskins and fired it—The lock on the great doors went out in a blast of blue fire.

Terry strode through the dispersing smoke into the dank, musty interior, tugged his torch out of his pocket and walked with an unconsciously reverent tread between the massive stone sarcophagi grouped around him. He had eyes for only one of them, paused as he came to it and stared at the inscription—

*Elsa Judith Dallaway. Born 1940.
Died 1965.*

"Ready?" Munro asked, coming up with crackling oilskins.

"Suppose," Terry whispered, as Dawlish set down the apparatus, "that we're wrong? That Elsa really did die? I couldn't bear the sight of . . ."

He stopped, stared round the ghostly shadows and shivered a little. The wind howled round the smashed and creaking doors. Through the gray opening yawned the waste of tumbling waters.

"I get it," Munro said sympathetically. "We'll look first. Come on, Dawlish—here we go!"

They both eased their shoulders under the sarcophagus' lid. Gradually it began to rise, slid gently to one side under the effort of steady heaving. At last it dropped off the edge with a shattering crash. Terry waited, not daring to look—then he heard Munro's whispered voice—

"By all the saints, she *does* live! Terry! Look, man!"

Shaking, he stared into the oblong space. There the girl lay, untouched by the slightest sign of decomposition, her shroud draped on her slender figure, white hands across her breast. The ring caught the blaze of the torch and blazed

enigmatically. In the time that had elapsed there was no trace of decay in that silent, beautiful figure.

Terry suddenly came to life, looked up quickly.

"Well, what are we waiting for?" he demanded fiercely. "Let's get busy with that radio! Come on!"

Munro took no offense at the sharp demand. Calmly he took the tarpaulin from the small transmitter, switched on the batteries. Not a sound proceeded from the instrument, but a quivering needle on its dial testified to the surge of power emanating from it.

Only the scream of the wind disturbed the men in those moments. Munro's pale eyes never left the instrument; Terry stared in dumb anguish, which turned to slow awe as presently he saw the girl's eyelashes flicker ever so slightly. A few more minutes and her bosom began to rise and fall gently; she drew in air through parted lips.

"She's coming back!" Dawlish breathed tensely. "No doubt of it now!"

Terry was incapable of speech or movement. He clung to the edge of the sarcophagus with a clutch of iron.

"Father . . ."

It was Elsa herself who spoke, in a tired, faraway voice.

"Father . . . Where are you? It's so suffocating in here. . . ."

The men glanced at one another. Munro switched off the machine and raised a hand for silence. Rigid, they listened. The girl was not yet conscious, was talking like one rising from anaesthesia.

". . . yes, I know, father. We can take those who believe. But the others; they may try and destroy. They . . ."

The girl sighed deeply, was silent for a while—then with a sudden spasmodic effort she started again.

"Father, why are you so long? The

doors—they won't open. Father—I'm choking! I'm cho—"

Her voice broke off abruptly and at that same instant her eyes suddenly opened, big gray eyes that stared in utter bewilderment in the reflected glare from the torch as Terry turned it from blazing into her face.

"What . . . ?" she whispered weakly. "Where—where am I? Who are you . . . ?"

"Elsa, it's me—Terry." He bent down, raised her thinly clad shoulders. Gently he raised her bodily out of the dank tomb and laid her on the blanket Dawlish had brought along. For several minutes she was silent, warmly wrapped up, taking the restorative forced to her lips.

"Oh—Terry," she muttered at last. "What—whatever happened? How did I get here. . . ? I dreamed the most amazing things—"

"We'll tell you our story later," Munro interjected quickly. "The main point at the moment is to get a story from you—if you're strong enough to tell it, that is?"

The girl nodded slowly. "I'm getting stronger every minute. What do you want to know?"

"Well, just before you recovered consciousness you spoke of your 'father,' and remarked that you were choking—dying. What did you mean?"

"I hardly know. . . ." Elsa pondered for a while. "Just a silly dream, I guess," she said finally. "I had the strangest conviction that I was a girl belonging to a highly scientific race, owning a great city which was being overwhelmed by storms and earthquakes. My father hit on the idea of saving the world and trying to reach Venus at the same time, by sinking a shaft into the earth which had direct contact with the earth's core. There were rings somewhere; rings like. . . ."

She stopped, stared at the ring on her finger, looked up sharply into Munro's face.

"Mr. Munro, what's happened?" she asked sharply.

"Never mind that for the moment, please. What more have you to tell?"

"Very little; I'm almost forgetting it all now. Oh, yes—I remember! We had everything ready. I was in the space ship, and we were waiting for the few people who were loyal to us to come and join us. They didn't arrive, so father went out to find them. He locked the doors as he went out in case any of our enemies might try to get at me and destroy the machinery. The doors were controlled with a radio key, you understand, and could be opened from either inside or outside—but there was only one key, and father had it."

"I remember I seemed to wait for him an interminable time, so long indeed that the air supply began to give out. I tried to break open the walls that hemmed me in, did all I could to escape. But I failed. I had the idea I was choking—"

Elsa broke off, shuddered. "It was horrible. The worst dream I have ever known."

"Was your name Thensla?" asked Munro very quietly.

The girl looked up in stunned amazement. "Yes—now I come to remember, it was! But Mr. Munro, how could you possibly—"

"Listen, my dear. . . ." The scientist leaned forward, laid a lean hand on the girl's blanketed shoulder. Quietly, with his usual impassivity, he told the whole story, throughout which Elsa sat in motionless silence, too astounded to interrupt. When at last it was over she cried,

"Good Heavens, you mean I was actually thought dead? That's why I'm in this horrible place?"

"Exactly!"

"Then—then this Thensla? Was it me? An astral projection or something?"

"No, nothing like that. You *are* Thensla, yes, living again. Call it reincarnation, if you wish. We know now why so many scientific *things* existed in early times. They had their roots with your race, but the storms scattered your people so much that each succeeding generation of children knew less than their ancestors. One girl alone, after untold generations, was born with a clear memory of the past—almost an actual link—and that girl is you, Elsa."

"But—but how? I don't understand!"

"Is it so difficult? Science today almost universally accepts the belief that death does not end the *entity* of an individual. The entity lives on eternally, is manifested again in other bodies, and continues in such a way until, perhaps, it comes back to the starting point—that is if we accept time as a circle.

"At one period you spoke to Terry of your feeling of detachment from your normal existence. A psychoanalyst would have placed your condition as the influence of events early in this life, or in some other past existence. There are, as we know, many people in the world such as you—who can remember things that have no part in their natural existence, who know of places they have never visited. What else but a memory link with a past state? Which one of us, indeed, has not at some time in his life said—'I have been here before!'"

Munro paused for a moment, and frowned, went on again slowly.

"The original strain of a past life was so strong in you, my dear, that you even carried your physical appearance across

the interval of death. You never had any idea of the real cause of your superficial feelings until certain events repeated themselves. The ring, as I have told you, reacted. The moment you passed into unconsciousness you lost all remembrance of Elsa Dallaway; your mind reverted to a time generations before in another life where the ring had figured so prominently. You described in detail events you had experienced in another form.

"Freud, for instance, has said that dreams of a fixed design can be induced by stimulating a sleeper to certain sound or sensations. What is false death—your experience—but a particularly vivid dream, wherein all the circumstances exactly matched up to induce in you the memory of a past event?"

"Now I begin to understand," the girl whispered slowly. "The memory of myself as Thensla, the memory of a great feat to be accomplished, that had ended in failure, has remained with me through the generations. . . ." She stopped, looked up slowly. "But how did I ever come to get hold of this second ring?" she demanded.

The scientist shrugged. "That we can never really know—but we can form two guesses. One is that it was originally worn by your father. He left the space ship, never to return—was lost by some unknown cataclysm, killed probably. His ring was found eventually by somebody, and they wore it. So it was handed down through ages upon ages, until at length, it came to you. That is one theory. The other is that if, as Eddington once said, we move in a Time circle, and must eventually repeat certain predominant actions all over again in sequence, the ring was bound by mathematical law to finally reach you and complete the purpose of the events for which it was intended. Not the

same ring, of course, but the experiences bound up with it were identical. Call it either chance or unerring inevitability—the fact remains it *did* come to you, by producing false death, led you back to that other life.

"Last of all, do not forget that in the interval no man until your father—Douglas Dallaway, that is—found a way to get high enough into the stratosphere in order to allow cosmic rays to reach him. At any rate the ring never had cosmic rays upon it until you went up with Terry. From that moment events started to repeat. As is so often said, history repeats itself. . . ."

He broke off in sudden alarm and glanced round anxiously at a sudden violent shaking of the mausoleum. A distinct ripple went through the ground; loose chunks of masonry came clattering down. The wind seemed to scream the louder for a split second.

"Nothing to worry about," Munro said briefly, glancing at his watch. "It's just three o'clock. The shock was the shaft being opened by radio waves—"

"The Sahara shaft!" Elsa cried.

"Exactly; just as I told you. I'd have given anything to see that fountain of fire go into space. The intensity of the explosion can be imagined when we can feel it even at this distance."

"I guess we'd better be getting out of here," Terry said quickly. "I'll carry you, Elsa. We'll see what's happened."

By ten o'clock that night the whole world knew what had happened.

By radio across the earth the news was flashed. Eye witnesses spoke of having seen that living column of in-

credible fire leap from Africa. The whole world felt the stunning concussion of the explosion, experienced the increase in hurricane created by the superheated wind.

But by ten o'clock the raging winds were abating. A calmer, more settled appearance was over the face of the earth. The incessant earth tremors of the past weeks were subsiding; volcanic eruptions gradually ceasing—The inner pressure had gone. Nothing of course could return the lands already sunken, but those that had survived were safe, at least for another three or four thousand years.

"And by that time," Terry murmured, staring over the flood from the headquarters' windows, "we ought to have gotten sense enough to tame Earth's periodic illnesses."

Elsa, lying in the heavy easy chair beside him, smiled a little.

"I'm not interested in the future, Terry; nor for that matter am I interested any longer in the past. All I want is the present—to see again the blue skies, sunshine, fields of corn."

"You will," Terry promised. "We'll take up where we left off—"

Terry smiled a little, turned to the girl and gently pulled the ring from her right hand.

"What's that for?"

"Just this." He flung the window wide, hurled the ring out into space with all his strength.

For a long time they both sat in the cool, reviving breeze staring at the spot in the flood waters where it had disappeared.

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SCIENCE QUIZ

WE present the following science questions and problems for your entertainment, and at the same time, as a pleasant means of testing your knowledge. How many can you answer offhand, without consulting an authority? Par is 80%.

TRUE OR FALSE

1. Oxygen constitutes about one-fifth of the air by volume. True.... False....
2. Gold never appears in a free state, but must be smelted to separate it from impurities. True.... False....
3. Chloroform may be produced by distilling alcohol or acetone with bleaching powder. True.... False....
4. A given mass of finely divided substance has a much larger surface than the same mass in compact form; therefore matter in colloidal form has little absorptive power. True.... False....
5. Igneous rocks contain neither potash or soda feldspars. True.... False....
6. The six precious metals of the platinum family are: Platinum, Ruthenium, Rhodium, Palladium, Iridium and Molybdenum. True.... False....
7. When an atom is positively charged, it is called an *anion*; when it is negatively charged, it is called a *cation*. True.... False....
8. The galvanoscope is used chiefly to detect the presence and indicate the direction of an electrical current. True.... False....
9. Aluminum corrodes rapidly in the air, forming a destructive oxide. True.... False....
10. Fats are readily soluble in ether. True.... False....

SCIENCE TEST

1. The largest planet is: Pluto, Mercury, Jupiter, Uranus, Titan, Neptune.
2. Which of the following is not a carbohydrate: sugar, dextrine, starch, fat, cellulose.
3. Atoms of identical chemical natures and nearly equal atomic weights are called: photons, ions, isotopes, electrons, protons.
4. A deviation of light rays from a straight course, as when passing near the edges of an opening or when partially cut off by an obstacle is called: absorption, diffusion, diffraction, polarization, reflection.
5. The asteroid belt is a region of cosmic debris, thought to be the remains of a shattered planet, maintaining an orbit between: Venus and Mercury, Earth and Mars, Mars and Jupiter, Pluto and Neptune, Saturn and Uranus.
6. Photosynthesis is: the art of synthesizing photographic subjects, artificial reproduction in

the laboratory, photography of micro organisms under the microscope, the ability of plants to use the energy of sunlight in breaking up carbon dioxide and building up carbon compounds, the ability of the retina to retain images for an appreciable length of time.

7. A trilobite is: a character in a famous play, a prehistoric bird, a night-singing insect of great melodiousness, a fossil of the Upper Cambrian and Carboniferous ages, the poisonous sting of an African insect.

8. Neolithic man lived in the age of: Copper, Bronze, Stone, Polished Stone, Iron.

9. The iridescent colors on a soap bubble are caused by: oil in the soap, extreme thinness of the walls of the bubble, distorted reflective properties of a sphere, reflections from the inner and outer surface of the bubble being mixed causing interference between the two, polarization of the light rays.

10. All but one of the following jewels have a distinct yellow color: Oriental Sapphire, Topaz, Cat's Eye, Fire Opal, Amethyst.

SCRAMBLED SCIENCE TERMS

1. A planet. ANRSUU _____.
2. A metal. AILMMNUU _____.
3. A space ship. CEKORT _____.
4. An age of man. GONE EAST _____.
5. A gas. E H I L M U _____.

STRIKE OUT THE WORD THAT DOES NOT CONFORM

1. Mirror, reflector, looking glass, meniscus.
2. Iron, mercury, copper, gold.
3. Moon, planet, meteor, asteroid.
4. Whale, spider, dodo, man.
5. Telepathy, wireless, radio, telephone.

PROBLEM

An astronomer, gazing through his telescope, discovers that a distant star cluster is beginning to explode. The first night he sees one nova, or exploding star in the cluster. The second night he sees two. The third night, to his amazement, he sees four explosions. Apparently the stellar catastrophe is a contagious one, and threatens to grow until the whole cluster explodes. For nine nights he watches the exploding stars, and each night twice as many flare up as the preceding night. On the tenth night the balance of the cluster blows up. On what night was cluster half gone?

(Answers on page 146)

DISCUSSIONS



AMAZING STORIES will publish in each issue a selection of letters from readers. Everybody is welcome to contribute. Bouquets and brick-bats will have an equal chance. Inter-reader correspondence and controversy will be encouraged through this department. Get your letters in before the 15th of each month.

BACK TO STAY!

Sirs:

AMAZING STORIES is back to stay! The October issue, which I have just finished reading, is without doubt the best issue of any science fiction magazine to come out in a long time.

The best story of the issue is the first part of Weinbaum's "Revolution of 1950" (this part is a story in itself). . . . This story is followed by "Locked City," which I put in second place.

I was glad to see Ed Earl Rapp in science fiction again. I remember his stories in the old issues of AMAZING. . . . I am also happy to see that you have at last decided to put "our" mag out every month now.

I approve of the idea to change the type of cover from month to month (photograph and drawing). . . . The idea of making use of the back cover for science purposes is a good one indeed.

Let's hope that AMAZING STORIES will keep up its present pace (which I think almost everyone approves), as I know it probably will.

Richard Irwin Meyer,
3156 Cambridge Ave.,
Chicago, Illinois.

● Mr. Meyer was the first of our readers to write in regarding the October issue, and it brings out to us a thought we feel will be approved by the readers. In order to keep Discussions an up-to-date column, we propose to hold it open for letters on the issue immediately preceding. We feel sure the readers like to have a department that is constantly current, rather than read letters pertaining to an issue several months back. Thus, we request that our readers send in their comments, their discussions, their arguments, as soon as possible after they read the magazine.—Ed.

A HORRIBLE HABIT?

Sirs:

May I have the honor of congratulating you, and everyone connected with AMAZING STORIES, for giving the science reading public a real honest-to-goodness magazine at last?

In the fall of 1926 I began the horrible habit of reading science fiction, and after reading a few copies the disease took firm hold and I have been a staunch reader ever since. For a number of years new magazines took the field, until their were several on the newsstands, and AMAZING STORIES took the lead, but for some reason it got a swelled head and in the last two years it has been a lousy magazine. I quit reading it, but when I

noticed a pulp magazine named AMAZING STORIES in June, for 20c, I thought someone had made a mistake. But as soon as I bought a copy, I understood.

I cannot now complain about a single story being a washout, as I found all the stories very nicely worked out, and enjoyable reading. Thanks for a swell mag and best wishes for long and continued success.

Edward J. Harriman, Jr.,
210 N. Western Ave.,
Marion, Indiana.

NEW COVER ARTIST

Sirs:

After meticulous examination of your October issue a certain amount of credit is due. Your new cover artist possesses an individual style that is very pleasing and must, I am positive, be of long standing in the art of painting. Congratulations!

Jack Mason,
133 Isabella St.
Toronto, Ontario,
Canada.

A CHANGED ATTITUDE

Sirs:

I generally do not approve of science fiction, but upon reading your new magazine, I couldn't help but change my attitude. Every one of your stories is just grand. Your stories are so accurate in details of the happenings of the future that you've got me believing they are really going to happen. Especially good is the back cover.

John Cunningham,
2050 Gilbert Street,
Beaumont, Texas.

STENZEL REPLIES

Sirs:

I noticed with great interest the letter by Mr. Charles Johnson regarding a letter I originally wrote about the derivation of the word WOLFRAM. Mr. Johnson sees fit to raise a side issue about the word tungsten, which is now the popular name for the element Wolfram. I feel it my duty to answer him on the points he raised.

First of all, let me say that, while my definition of tungsten may have gone too far, I would like to point out that the derivation of the word has nothing to do with my original contention. In 1781 the element was discovered by Scheele in the ore tungsten and was later isolated and given the

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name Wolfram, from which its international symbol W (Wo) was taken.

Another point raised by Mr. Johnson is the Germanic extraction business. This is a ticklish matter, since the only thing from which we can conclude this is my name. While Mr. Johnson's own name and that of Scheele and tungsten are definitely of Germanic extraction, certainly not of Celtic, Romantic or Slavic, we have had authorities express grave doubt that the name Stenzel is of Germanic origin at all.

*Wolfram Stenzel,
162-48 14th Ave.,
Beechhurst, N. Y.*

PAUL?

Sirs:

The new AMAZING is a pleasant surprise. I've always held a sentimental attachment for A. S., it being my first stf. love, but I've not followed it for years because I felt that it fell so far under the old standard. I'm hoping that from now on this won't be true.

Congratulations on the photo covers. You have something there if you'll try hard. But stick to paintings, too. This month's (Oct.) brought a gasp of pleasure from me. It's superior to any of the other mags. I would wildly like to see Paul again, cover and interior. My opinion, he is tops in his field, bar none. I can think of nothing I'd rather see than Paul on the cover of a LARGE AMAZING again.

And now a point-blank question. DO we get Paul OR the large format or BOTH? I'm not daring you to answer that, but I'm saying, PLEASE, won't you?

*F. H. Miller,
314 Wheeler St.,
Spartanburg, S. C.*

● Once again, we ask the readers for their voice in an important matter. Do you want Paul to illustrate AMAZING STORIES? Mr. Krupa and Mr. Fugua are both Chicagoans, and infinitely more available to produce illustrations which can be corrected before publication, if any errors exist. And we think their work decidedly does not suffer in comparison with Paul. Just study the illustrations in this issue, and compare them with the work of the famous Paul. Then write and let the editors know what you think. It's your magazine, and your word is law.—Ed.

YOU ARE RIGHT

Sirs:

In your answer to my letter printed in Discussions of October, you said, that it was beyond your power to make the gentleman in the Observatory cut sane, because it was the managing editor. Permit me to extend my sincerest condolence in the hope that it may aid him in the bearing of his great burden.

Now to come to the business of telling you my reactions to the October AMAZING. It is steadily improving. Keep it up. The best story in the issue of course was Weinbaum's. The next best, I

think, was Locked City, third, Artificial Hell and fourth place is accorded to Horror's Head. Further than fourth I refuse to go.

It has been my understanding that hypnotism could only be performed with the full consent, and aid, of the one to be hypnotised. But, in *The Gland Superman*, the doctor hypnotised the mad man. How come?

*Mary Rogers,
2006 Court Street,
Muskogee, Oklahoma.*

● If you will remember, the effect of the ray in "*The Gland Superman*" included making the fighter very susceptible to suggestion, in other words, robbed him of much of his will-power. Therefore, it was easy to hypnotize him. He had no resistant will, but was in effect amenable to hypnotism.—Ed.

WEINBAUM'S LAST WORKS

Sirs:

Your mention of the last works of Stanley G. Weinbaum struck a responsive chord with me, and I think by all means you should publish the two long novels in AMAZING. If possible they should be published complete, but if they are too long, they would be very welcome as serials. This, in my opinion, would be a real "scoop" for AMAZING. Why not put it up to the readers and get their opinion?

The whole of the October issue is way above par, with the first installment of Weinbaum's story promising to be as good as *all* his other writings.

Am very glad to see that you've gone monthly.

*Russell E. Powell,
Southern Pines,
North Carolina.*

● Without doubt "*Revolution of 1950*" will be the best story of the October issue, far and above all others. Weinbaum surely has his place firmly fixed as a master in the science fiction hall of fame, and your editors think it about time that his name be added to those two who are generally mentioned in the same breath with science fiction's best, Wells and Verne.

As for publishing anything further by Weinbaum, we've already mentioned the works remaining unpublished. If the readers want them . . . well, your editor can be influenced by enough pressure. Quite frankly, Weinbaum wrote something here which is *not* pulp fiction. It *is* science fiction however, but not exactly an action story. One of these manuscripts is on our desk now, and perhaps it might be a good idea to let the readers have a voice in its final disposition. What do you say?—Ed.

SOURCE OF INFORMATION

Sirs:

The article "He Lives, But Does Not Breathe," by Ray Cummings, page 41 of AMAZING STORIES, October, 1938, is very interesting and amazing. It would be much more interesting and amazing if you were to give the source of his information in a useful form. I do not doubt Mr. Cummings'

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veracity, but I would be interested in looking at his sources of information.

Good Luck to the monthly! A steady reader.

E. E. Predmore,

28 E. Fulton St.,

Long Beach, N. Y.

● As Mr. Cummings mentions in the concluding sentence of his article, his information comes from "The Lancet," official organ of British medicine. —Ed.

FROM THE PHYSICS DEPARTMENT

Sirs:

It has occurred to us that the readers of AMAZING STORIES might be interested in a practical application of artificial radioactivity to rocket propulsion.

At present large quantities of radioactive substances can be prepared artificially. It is well known that such materials give off large numbers of beta rays, which are electrons moving at velocities approaching that of light.

We propose to use the recoil of these electrons to propel a rocket just as an ordinary rocket is propelled by the recoil of explosive gases. A conservative estimate of the number of electrons ejected by a radioactive substance is 100,000 per second. Now it is true, as you have pointed out in your June issue, that an electron is very light; many more than the above figure would be required, therefore, to give the rocket an appreciable recoil. However, your estimate is the mass of an electron at rest. The elementary theory of relativity shows that when Newton's laws are written in relativistically invariant form, the momentum assumes the following form:

$$m = \frac{m_0}{\sqrt{1 - (\frac{v}{c})^2}}$$

where m_0 is the rest mass of the moving particle and where v and c are respectively the velocities of the particle and of light.

Now for velocities approaching that of light p increases tremendously according to this experimentally verified formula. In fact, if v is sufficiently close to the velocity of light to make the quantity under the radical sign about 10^{10} , then each electron moving at this velocity will weigh about one pound!

It is an actual fact that known radioactive substances emit electrons with velocities 95% of that of light. This lacks only 5%, or 9,300 miles per second, of the speed of light itself.

The stern of the rocket will contain a radioactive substance plus an electron accelerating tube to give the electrons the small additional velocity needed. Such an electron tube presents some technical difficulties, but tubes have been designed and used in physical laboratories for giving electron velocities of several thousands of miles per second.

Thus, we see that here we can have effectively a hundred thousand pounds, or fifty tons of high velocity electrons, leaving the rocket each second. This should be ample to enable a rocket of several hundred tons mass to escape the influence of

the earth's gravitational field.

In conclusion, we desire to compliment AMAZING STORIES for maintaining consistently high standards in its field. We hope it will soon be published monthly with an increased number of interplanetary tales.

*Robert J. Maurer, B.S.,
George Valley, S. B.,
Dept. of Physics,
University of Rochester,
Rochester, N. Y.*

• Your rather revolutionary theory of a method of rocket propulsion is very interesting, and we feel our interplanetary enthusiasts will consider it deeply, and offer their own opinions. If there are any more of the worthy scientific gentry who would like to say something about your idea, we'd be glad to get their opinions.—Ed.

KEEP UP THAT PACE? WELL TRY Sirs:

This time I can't resist writing to you and voicing my AMAZEMENT at the AMAZING progress of AMAZING STORIES!!! When the June issue came out, I was startled by the stride forward the magazine had taken. I say forward because it showed that new hands were at the helm, hands that weren't sure of where they were going, but at least, willing hands. Then, when the August issue came out, and showed another BIG step forward, I began to sit up and take notice. The stories in the first issue were had, to be sure (that is, they weren't what I like) and the illustrations were no better than any ordinary pulp, but the stories in the August issue showed a great improvement, and the illustrations an equal advance in quality. After those two big steps, I didn't think the progress would keep up at that rate, but I was wrong. October is the biggest step forward of all!!! Great heavens, you can't keep up that pace! You can't improve 100% every issue. It ain't human! If that November (and—say, thanks a million, for a monthly!) issue shows still a fourth and equal advance, I'll write to Ripley and tell him he's missed a bet. Whoever heard of a pulp magazine coming from the bottom of the heap as a lousy rag to the position of "king of the hill" in four steps?!

Your illustrations are still improving, and I think the best artist yet is Julian S. Krupa. That illustration for "Flying Dutchman of Space" is fine. And his others show a promise of much better in the future. I'd give him a chance to learn the ropes, if I were you. Robert Fuqua is much better as a cover artist, but his illustrations aren't bad either. No doubt we'll see more of his work, too. I don't care much for Welch. He doesn't pay much attention to detail, and I like an illustration I can look at for awhile and digest. When you digest Welch, you get the conviction his gadget wouldn't work. Now, those machines in that space ship of Mr. Krupa look like I'd imagine they really would. I imagine you gave the artist a lot of coaching on this illustration because I can't find any scientific fault with it.

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Whoopee!

A satisfied reader,
Charles L. Widmann,
Hotel Allerton,
Chicago, Ill.

• Mr. Krupa wasn't coached in his work, but uses his own imagination, except insofar as the story itself dictates the material to be illustrated. I think you'll find he is improving by leaps and bounds in coming issues, and the same goes for Mr. Fuqua, who presents another fine cover painting next month.—Ed.

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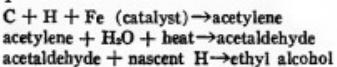
THE QUIZ

Sirs:

Tut, tut! We take all sorts of technical extrapolation in the stories almost without a whimper, but in the quizzes and answers to questions, puhlease. It just isn't fair.

For instance, you interpret the formula $w = \frac{1}{2}mv^2$ in terms of pounds and feet and get the answer in "units." But prithee, what units? The accepted use of the formula is in the form $w = \frac{1}{2}mv^2$ giving the answer in foot-pounds of energy. (g is, of course, the gravitation constant, 32.2 in the English system.)

And in the matter of alcohol, I hope your use is more modern than your chemistry. N. C. digs out for me from Richter's Organic Chemistry, vol. 1



No bugs. The correct answer is "false."

A luminescent source gives off light without heat. But light is heat—of wavelength from 0.4 to 0.7 micron. Ergo, false. If you had said without waste heat it would have been true.

All theatres must have a stage. Says you. Messrs. Funk and Wagnalls say that a theatre is any place or region that is the scene of events. This seems to lead to the conclusion that an open space is more essential than a stage.

I could be mistaken, but I always thought that an orange was a fruit. And never found a seed in a navel orange that I can remember, although it seemed to be soft. Let's compromise on that one.

You have a nice magazine, but it would be so much nicer if you kept the fiction in the stories.

Contractus,
N. Y. C.

• Quoting from "Matter & Radiation," by John Buckingham, M.A., issued by Oxford Press, London, 1930, on page 55—"Now it is an axiom of science that energy can never be destroyed, but that it can change its form. The latent energy of a bullet clearly depends on its position and is known by the term 'potential energy.' The active form of energy is known as 'kinetic' and is measured by the product $\frac{1}{2}mv^2$, where m is the mass of the moving body and v its velocity. Suppose the hammer which hits the nail weighs 2 pounds and is moving 10 feet per second at the instant of impact. If the hammer stops dead it has lost

$\frac{1}{2} \times 2 \times 10^2 = 100$ units of energy, and some of this energy divides itself up among the many particles in the nail-head and hammer, whose energy of random movement is thus increased. Another portion of the energy of the hammer has been used up in overcoming the resistance of the wood or other material into which the nail is fixed. Yet another fraction has been given to the surrounding air and dissipated in the form of the sound of the blow. Sounds are, as we have seen, vibrations of air particles and are therefore a form of energy."

Kinetic energy has nothing to do with gravity, as you assume. Therefore, your equation $w = \frac{1}{2}mv^2$ is in error in the matter of the hammer question posed in the October issue of AMAZING STORIES.

You are referring to synthetic methyl alcohol, or "methanol," when you present your formula. In this you are correct in saying there is no living organism connected. However, alcohol is formed by fermentation induced by certain enzymes, catalysts produced by living organisms. Yeast possesses these enzymes. Therefore, our answer is correct.

Light is a form of energy, and heat is another. But light is definitely not heat. Webster says luminescence is an emission of light not ascribable directly to incandescence, and therefore occurring at low temperature.

The original Greek amphitheatre had an open space, rather than a stage. However, the theatre is an *enclosed* space.

A navel orange, says Webster, is a type of orange in which the fruit incloses a small secondary fruit, the rind showing on the exterior a navel-like pit or depression at the apex. There are several varieties; they are usually seedless, or nearly so, and are much grown in California. Therefore, it would seem that your definition of a navel orange is in error—they *do* have seeds, occasionally.—Ed.

A LONG SILENCE BROKEN

Sirs:

For three years now I have read and enjoyed AMAZING STORIES and kept entirely silent, leaving criticisms and comments up to other readers. This last issue (October) has prompted me to write this; it certainly is worthy of generous applause. Illustrations, cover, and all the various departments are good—better than they were, at least.

But here's an ugly pimple: the edges of the magazine are cheap and dime-novelish. It's irritating, trying to thumb the pages. Can anything be done about it?

As for the stories, they were all fine, and "The Locked City" was excellent.

You, my dear editor, are supposed to print stories that can be truly placed under the heading of "AMAZING." Try to keep them as such as "The Gland Superman," "The Atom Smasher," "Horror's Head" and others. Nor is the need of sex-appeal necessarily essential to pseudo-scientific tales if they are to be placed in the "classics" realm.

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Those conservative cranks who make so many noises over them are flat-foot-floggers! Take the cover of the October issue: it is *perfect*!

So keep up the good work. It's hard to please everybody, of course, but as far as I'm concerned, there's nary a better magazine on the market of its type for the money or matter.

"Til the Sun freezes over,

Byron G. Ingalls,
30 Main St.,
Foxboro, Massachusetts.

● We've had a lot of talk about keeping sex out of AMAZING, and readers in general approve of our October issue in regard to the subordinate part sex (and love interest) plays in the issue. But the fact remains that when a good story comes up with a strong love interest, it is widely approved by the readers which would seem to prove that they *do* want love interest. We point to "Secret of the Ring" in this issue as a yarn that treats this angle in an excellent manner. Our writers are gradually learning the proper slant, and we promise you that future stories will be well constructed from all angles, including, but not overdoing, that much berated, and yet grudgingly approved one, love interest. As for the interior illustrations, we intend to give you the best. We have some marvelous work coming up in our next issue.—Ed.

DEFINITION OF TIME

Sirs:

Was pleased by the new issue and a bit surprised to see you including my definition of space. Einstein has just come out with a new one; viz.: "Time is longer than anything."

Nice cover and format, and it looks very good to me.

Robert Block,
620 E. Knapp St.,
Milwaukee, Wisconsin.

● Maybe you can define Matter for us too, eh, Bob? You've given us Space and Time now.—Ed.

TOPS IN THE FIELD

Sirs:

I have been reading AMAZING for about two years and think that now it has changed hands, it is on its way to being tops in the science fiction field.

Jack K. Combs,
2632 Kingston Drive,
Houston, Texas.

MORE ABOUT PROPAGANDA

Sirs:

For years and years I have read science-fiction—and what have I found paraded before my eyes? I have found nearly every story of the future prating endlessly about the ideal socialistic state utopia, or some such rot. If our Mr. Wollheim is earnest in his desire to free science-fiction of propaganda, let us see what he will say about the hundreds of stories that have appeared in print that luridly present socialistic ideals—and what's more predict triumph for the socialists in control of civilization.

Wollheim demands that the socialists should be gently handled—I demand that a few authors vision another kind of future life other than that in which the socialists, with their silly plans, are lord and master over ideals and initiative.

*Bob Johnson,
514 So. Anderson St.,
Elwood, Indiana.*

STILL MORE

Sirs:

I purchased the October AMAZING STORIES only an hour ago, so I have not yet had time to read the stories, but that is not the purpose of this letter anyway. "Discussions" being the first section of the magazine I read, I noticed and became interested in Mr. Wollheim's lengthy contribution. With your permission, I will now proceed to enter the fray.

There have been stories without number in the past, portraying the abuses and cruelties of the aristocrats—the upper classes—heaped upon the downtrodden workers of the lower levels. Who can forget "The Cities of Ardathia," "Exiles of the Moon," "Power," "Barton's Island," and many, many others? Any reader could have construed the plots of these stories to be anti-capitalist propaganda—which they were decidedly not. We've had plenty of stories like that in the past—some of them are classics. All right, then. Turn about's fair play. Is there any assurance that any dictatorship, even a Communist one, will not abuse its powers and resort to inhuman methods in eliminating its enemies? Of course not. There has been and still is, just as much political terror employed by the Russian Communists as by the

Fascists, so why try to paint Marxism and its followers as the super-state and the super-men?

After all, "Escape Through Space" is only a story, and if we must have stories of tyranny, class hatred, and bloodshed, there is no reason why the aristocrats should always be the villains and the radical element always the heroes. In my opinion at least the change is refreshing.

*Louis Goldstone, Jr.,
2434 Jackson Street,
San Francisco, Calif.*

AMAZING IMPROVEMENT

Sirs:

Due to the amazing (no pun intended) improvement of the October AMAZING STORIES over the two previous issues, I am constrained to write you. Bear with me as I tell all.

The first two issues were aptly described by Chet Fein's "masterpiece." Yes, they stunk out loud. However, I suppose you didn't have full charge of the magazine then, and didn't have the say on certain of those stories. Notably the blood and thunder stories with the love interest so predominant. There are many love magazines on the market, so please don't feed us that mush again.

The cover of this issue was rather good. I liked it much more than the fotos. It seems more realistic. Concerning the cover question though, of the three readers who mentioned the covers at all, each one asked for Paul, the greatest science fiction artist of them all. I don't know if you could get Paul now, though, as he is working for a new sf magazine, but if possible, get him! Remember that you claim to be a progressive editor of a magazine. And that as such, you should do something new, something original. Listen to your readers, and follow their dictates as far as possible. Don't antagonize us too often, as certain other editors have done in the past!

Of the stories, I would say that "Locked City" was the best. Not because of plot entirely, but because of effective character depiction. More power to Mr. Ayre! "Horror's Head" by Pease was also very good. In fact, it could be very easily in a tie with "Locked Worlds." I'll bet Don Wollheim raises a hullabaloo about HH.

"The Gland Superman" by Ed Earl Repp who

When you have finished reading the scientific material in AMAZING STORIES, why not get into something that has all the thrills, all the elements of romance, all the absorbing interest that has Radio. Read RADIO NEWS for the latest developments in this fascinating field, and lay a firm foundation for a hobby that surpasses them all.

READ



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has been away from sf for a long time seems to be in a three way tie for first place.

"Artificial Hell" ended very well. By that I mean that I like to have the secondary hero sacrifice his life for the world and the number one hero. But, outside of the ending, I didn't care very much for it.

The worst story in the issue was "The Flying Dutchman of Space" by FAKummer. It could easily have been one of the best but for such passages as this: "He could hear the drip drip of his own blood upon the floor, then, more horrible still, a greedy gulping sound as one of the grey things lapped it up." Must we have gore so prevalent as to make a story fit only for *Horror Tales*?

As for the serial, I can't comment because I never read serials until I have all the parts.

The departments are really superb, especially the back cover. Don't discontinue this, please! Enlarge the reader's corner! It isn't as large as it should be.

Now for a few more requests (you shudder). What about large size? If you could have the format of *Radio News* in the near future, I'd die happy. But, seeing that you're going monthly, I guess I'm being rather unreasonable. Oh, yes! After AS is well established as a monthly I expect to see that quarterly on sale.

*Louis Kuslan,
170 Washington Ave.,
West Haven, Conn.*

You condemn a story that you admit could be one of the best simply because of several passages of "horror"? We believe that Mr. Kummer has very aptly described the true ghastliness that "space madness" could become. Certainly a shipload of hopelessly insane men would be no pink-tea party. However, we certainly won't include horror just for horror's sake, and we promise you it won't intrude where it doesn't fit.—Ed.

LIKES AND DISLIKES

Sirs:

I note with joy that your October, 1938, issue marks a definite break with the policies governing the first two issues of the new AMAZING.

For instance, the cover is a painting and not one of those super-ultra-horrible photographs.

Keep that up! Then again, and this is far more significant, I notice that not one of your stories suffers from superfluous love interest.

As for your other innovations, most of them are all right. The back cover is a wonderful idea and the departments (especially "Meet the Authors") are excellent. However, is it really necessary to be so terribly "down-to-earth" in your stories? I realize that it is best that different sf. magazines have different policies so as to cover the field adequately, but surely a tiny hit of imagination won't kill anyone.

There is no need to say anything about your going monthly. We science-fiction fans have waited for that for, lo, these many months and now that we have it, we breathe a silent prayer of thanks. For this noble effort I am really ready to forgive you such shortcomings as you possess.

I notice that you are quietly and very unobtrusively running a serial. Will this be your settled policy? Now that you're on a monthly basis, serials won't hurt, you know. "Revolution of 1950" is shaping up as a darn good story so far. There's not much science in it, but I would forgive Weinbaum far more than that. What an author that man was!

After "Revolution of 1950" come three stories, all about even and all good. 1. "Gland Superman," by Ed Earl Repp. (Gosh, it's good to see his name inside a science-fiction magazine once more. Try and get some more of the old-timers.) 2. "Atom Smasher," by Gordon A. Giles, and 3. "Locked City," by Thornton Ayre. Both these authors are consistently good, so you ought to keep them on your list. "Locked City," by the way, was the most imaginative story of the issue and I'll bet you find that it is one of the favorites. That'll show you that your readers aren't afraid of a thought-provoking story.

Next comes Harvey Emerson's "Artificial Hell," which was fairly good, and Kummer's "Flying Dutchman of Space," which was fair.

And now for my kick. "Horror's Head," by Lieutenant John Pease, was—the—worst—story—I've—read—in—a—long—time.

I don't quarrel with the author's political views, but why is it necessary to write a story expounding them? Theoretically, the story concerned something about an independently living head,

AIRPORTS AT SEA

IN THE OCTOBER ISSUE

... is one of the big features of the October issue. It's the whole "inside" (literally) story of the aircraft carrier, the United States Navy's floating community. But this is just one of many features. Lee Gehlbach, the famous test pilot, writes "It Gets in Your Blood." And Lewin Barringer, world-famous soaring pilot, writes "Flying Without Power."

POPULAR AVIATION

but I'll be darned if I finished that story with any idea in my brain other than that Russia is the rottenest hell on earth ever conceived and that the rest of the world ought to join in a Holy Crusade against it. Or at least that is what I would think if I took Pease's words to heart.

Now look, is it absolutely necessary to write political treatises for the magazine? Furthermore, I think that entirely too many stories are being printed part or all of whose theme is the reaction against some form of despotism. I'll list them: 1. "Man Who Ruled the World"; 2. "Escape Through Space"; 3. "Locked City"; 4. "Revolution of 1950," and 5. "Horror's Head."

If you must give us down-to-earth stories, make them like "Atom-Smasher" and "Gland Superman."

*Isaac Asimov,
174 Windsor Place,
Brooklyn, N. Y.*

What do you think of the stories in this issue? We consider them all to be very solidly based on fact, and as representative of what we mean by "down-to-earth." You don't find a lot of incredible stuff, but simple scientific facts with plenty of potent (and possible) punch. A story like "Secret of the Ring," based on something so elementary as Earth's interior pressure, seems to prove that the most fantastic is not the "best" in science fiction.

Peculiarly, "Horror's Head" seems to be the subject of extremes of opinion. Everyone seems to like the story, but several don't like the locale. And the reason? Politics again. Why do you object to "reaction against despotism"? Is there a reader of AMAZING STORIES who *wouldn't* react against it? Some of the finest of the world's literature is based on "reaction against despotism." Even the world's greatest book, the Bible, deals with "reactions against despots." And, in fact, speaks quite plainly against them. It is human nature to resent being ground beneath the heel of a dictator. The plot of "Horror's Head" couldn't be placed in America. It couldn't happen here. Nor in France, England, Germany, Japan, China, or any other country we can mention. Russia, and Russia alone, lends its locale to the story.—Ed.

"STANDARD" AGAIN

Sirs:

The new AMAZING STORIES has set a "standard" for itself, but not the "standard" Mr. Yerke implies. It is a "standard" which is *higher* than the other two S. F. mags on the market. And all this is due to that October issue. The cover of this issue was truly Amazing. An effect like this could not possibly be duplicated with the color camera so let's have more illustrations and less photographs. Your interior illustrations are only fair though. How about getting some of the old timers—Dold, Wesso, Morey?

Now to the stories. After I read them, it seemed each one was better than the other and after some very hard thinking I nominate "Horror's Head" the best story in the issue, being a bit

better than "The Gland Superman." Stanley G. Weinbaum's "Revolution of 1950" is very interesting reading, but it's not science fiction?

For general improvements in the mag give us more science and less of the human interest, smooth edges, more short stories, and last but not least, tone down the mag a bit, if you get what I mean. Yours for more of this "super-standard."

Just for curiosity how many science-fictioneers all over the world read AMAZING?

*Harold S. Bell,
5446 Hutchinson Street,
Montreal, Canada.*

We estimate that there are about three hundred thousand science fiction readers all over the world.—Ed.

BEST YET PUBLISHED

Sirs:

Your October issue of AMAZING received this week, I was very pleased to see that you have obtained new artists. The work of FUQUA and KRUPA are very good. They do the type of work that is really stf. I would suggest that you let them illustrate the whole magazine.

All in all, I place this issue as the best you have yet published and I was very pleased to see that it'll come out monthly in the future, now that your stories are improving, a monthly magazine is the ideal thing.

*James V. Taurasi,
137-07 32nd Avenue,
Flushing, New York.*

MORE EMPHASIS

Sirs:

Cover excellent; you have a real artist there. Glad you're not abandoning the color-photograph idea, but until they work the technique up better, it's good to alternate with a well-drawn one.

Weinbaum's work welcome, though you should avoid serializing when possible. The first installment very enjoyable. I, needless to say, liked the Washington local color; a welcome relief from the usual New York locale.

Giles continues to blaze a brilliant path with The Atom-Smasher. Rates a high B.

The William Green matter. Far better, in my opinion, to say that William Green was not a *character* in the story. Einstein is the name of an actual living person and is mentioned in your stories, but I doubt if it contradicts your policy.

Nope, I wasn't accusing s-f magazines of chasing new ideas away. What I was thinking of is obvious.

Your point, that history has always surprised us, is one that will bear more emphasis. And Weinbaum's remarks on science never indicating the choice, but showing only between what things the choice lies, needs to be studied by the advocates of a *scientific-socialist* World State.

On the whole, the October number is a continuance of your upward trend, and I welcome monthly appearance.

*Jack F. Speer,
1812 R. N. W.,
Washington, D. C.*

QUESTIONS and ANSWERS

This department will be conducted each month as a source of information for readers. Address your letter to Question & Answer Department, AMAZING STORIES, 608 S. Dearborn St., Chicago, Ill.

Q. Could not a photograph of the moon, Mercury, Venus, or Mars be taken, and the photographic plate be in turn so placed that it could be enlarged by retaking it through another telescope or a microscope and so on ad infinitum, and thus learn the secrets of far off planets? For example, suppose we had a photograph of Mars which was twenty-four inches in diameter. Could not a microscope be focused on this photo plate, and a second photo be taken, until surface details are brought out?—W. E. Harvey, Walhachin, B. C., Canada.

A. There is a definite limit to the amount of enlarging a photo will stand. The grain of the emulsion is coarse in comparison to the magnification you propose, and this sort of "space travel" would not take you very far.

* * *

Q. What is the mechanical or chemical structure of the lie detector or truth serum? How do they operate on the physical structure of the person subjected to them? Do they really make men tell the truth, or must their findings be interpreted by experts with good deal depending on the honesty and intelligence of the expert?—R. Baker, Vancouver, B. C., Canada.

A. There are both mechanical and chemical lie detectors. The mechanical means record respiration, pulse, and the actions of the delicate sweat glands in the palm of the hand, and by various other means. The interpretation is of course up to the expert. Truth serums are a dangerous chemical and must be administered with care, or there may be danger of death or serious disorder. Both means are considered theoretically reliable, but are generally held as illegal or open to question as to their positive accuracy.

* * *

Q. Are infra-red rays visible, and if they are not, why are they called red? What is their position in the scale of wave length?—Edward Gadouas, Milwaukee, Wisconsin.

A. Infra-red rays are invisible, like wireless waves, next to which they lie in the wave length scale. They are emitted by all hot bodies, electric arcs, etc., which accounts for their connection with the color red. Their wave lengths vary between about 0.018 inch, and 3×10^{-5} inches, which is the limit of visible light. Above that we come to the true "red" color, visible to the eye.

* * *

Q. When we say "negative" or "positive" what distinction do we make, and how do we definitely designate which is which?—Frederick Pohlmann, Ishpeming, Michigan.

A. The names "positive" and "negative" which are applied to electric charges are purely a matter

of convention as to which kind of charge is indicated. The terms came into use in the early days of electrical experiments when it was found that a piece of sealing-wax rubbed with flannel attracts the flannel, but repels another piece of charged wax. Thus, the charge on the flannel was called positive and the charge on the wax was called negative.

* * *

Q. What is the difference between mass, weight and density?—Albert Bretano, Bronx, New York.

A. A mass is a definite quantity of matter, and is constant. The unit of mass is the gram. Weight is the force by which a body is attracted toward the earth; it is variable, but is proportional to the mass. Density is the mass of a body per cc.

* * *

Q. Is Barium a metal, and if so, where is it mined? What does it look like?—A. H. Mendel, Willard, New Mexico.

A. Pure Barium is a silver-like metal, slightly harder than lead. It does not occur naturally in a free state, and was first prepared in 1808.

* * *

Q. What causes the "roll" in thunder? If it is an echo, what does it echo from? How can there be an echo on a level plain, where the sound would travel up and therefore you would only hear it once?—Leo Fike, Lincoln, Nebraska.

A. The roll of thunder is due to "reflection" by clouds. This does not mean that they are opaque to sound, but merely that they are in a different acoustical state from the surrounding air. The rolling is also partly due to the waves getting steeper and steeper until they ultimately break and spread over a longer distance. The direction of travel of sound waves depends greatly on temperature also, and a layer of warmer air would reflect it, causing another echo. Mountains or plains have little to do with the "roll" although an echo would be enhanced by a geographical obstruction.

* * *

Q. Where is the Great Rift Valley, and what is it supposed to be?—Helen Manthey, Portage, Wisconsin.

A. The Great Rift Valley is the largest tectonic fracture in the surface of the earth. The tremendous indentation reaches from the Dead Sea and the Jordan River in Asia, to the Sabi River in South Africa, and has been traced that entire distance, a length of five to six thousand miles. In places it is two and more miles in depth and hundreds of miles in width. The origin of the Rift is placed in the Eocene period, and is of volcanic nature. If our planet ever breaks up, this is the most likely place for the breakage to start.

Meet the Authors

RICHARD TOOKER

Author of

RAY OF ETERNITY

MY writing career actually began twenty-one years ago with a science fiction novelette published in the early *Weird Tales*. That sounds as if I were on the sunset trail in years. But, fortunately, I had enough natural ability to do my first acceptable story at the age of fifteen. However, being a country lad, I didn't know where to sell the story until several years later, when I was getting literary experience behind the scenes as an associate editor of Fawcett Publications.

I've had a never failing interest in science and science fiction, ever since, at the tender age of eight, I successfully prevailed upon my mother to order me a little microscope as pictured in the Sears, Roebuck catalogue. I sometimes think I missed my calling in not gravitating to some branch of science. However, I never have proved a thorough student, except in hunting up the facts to back up a theory for science fiction. Like a good many artists, I have infinite patience in producing a picture and proving or demonstrating a dramatized theory; beyond that I quickly lose interest. I only wish I could remember a small fraction of the knowledge I have absorbed at one time or another in producing science fiction.

My first love was science fiction. I once hoped to become an ace in this field; I haven't altogether given up the hope. But I do know that, while science fiction lures me more powerfully than any other form—and I have done most all of them with some success—it is the hardest to write. By which I mean, it demands more creative energy. When I do an acceptable science story, I'm prouder of it than a goose that actually has laid a golden egg. I know how hard it is, and I wistfully look forward to the day when, again, I feel the Promethean fire that creates a vision or a testament of prophecy in the greatest field of fiction within the category of human aspiration.

"Ray of Eternity" had its inception in the idea that, as a result of some discovery, "tomorrow" could be removed even from the certainty of life insurance statistics. No one knows just what time is. If we think of it too long we become candidates for asylums. Yesterday exists only in memory; material records of yesterday exist only today, as we see them. Tomorrow does not exist at all; only the law of averages indicates that there will be a tomorrow, another today, which will speedily become yesterday.

And after all, who can refute that time is not a ray, considering how little we know of so vastly important an emanation as the cosmic rays? Time—a more elementally important emanation than the cosmic rays; a universal government of evolution, growth, endurance and decay. Screen that

ray and we have instant dissolution, thousands, millions of years' duration, the ultimate end being the reversion of the entire solar system to the invisible mists that must have preceded the primeval nebula of the La Place theory. And all happening in a few seconds of our present conception of time.

That man, inherently selfish, should aspire to use a "time screen" for purposes of conquest follows as inevitable, with logically international espionage. Thus the story unfolded, the setting these lonely deserts of my resident state of Arizona, where almost any scientific experiment can be undertaken without danger of public interference, generally, and without risking the destruction of life and property in more settled districts.

I do hope the readers of the new and colorful *AMAZING STORIES* will enjoy "Ray of Eternity" half as much as I did writing it.—Richard Tooker, Phoenix, Ariz.

* * * *

THORP MCCLUSKY

Author of

THE MONSTROSITY OF EVOLUTION

IT has always seemed to me that none of the mechanistic theories we have all read concerning the evolution and ultimate destiny of the cosmos explain the fact that life continually improves itself. An atom of hydrogen is presumably the same as an atom of hydrogen was fifty billion years ago; there is no capacity for improvement in the raw building blocks of which our universe is made. But life changes itself, and always for the better; it is an irreversible process. The conclusion easily follows—that there is some cosmic irritant which produces this effect, this instability, in life. From this point my story wrote itself.

The main point I wished to bring out in the writing of "The Monstrosity of Evolution" was one which has been irritating me for many a moon. Evolution, which many authors have treated in their yarns in a hastened process, seems rather silly to me, if you disregard the fact that evolution depends perhaps much more than fifty percent upon environment for its probable course. The physical nature of the surroundings play a great part in determining just what sort of evolution shall result. Therefore, in a hastened evolution, there can be by no stretch of imagination, a true mutation. It must be a false one, predicated entirely upon present-day environment. Certainly, man will evolve, but we can't even dream of the way he will evolve, without knowing something of what his environment will be. Only if conditions stay exactly the same as they are now, will the evolution turn out as I picture it in my story. And that, you will admit, is the most unlikely factor of all.

This summer, while I vacation with my family at Boonville, New York, where my mother lives, I will be mulling many new plots over in my mind,

and perhaps putting a few down on paper. But that depends entirely on chance. You see, there is swimming, golf, tennis, etc., to consider. And in Boonville, nature is a predominate environment. In the closed season, I have seen as many as four deer striking across the lots within a half-mile of our house. And after all, a vacation is a vacation.

Walter Edmonds, who wrote "Drums Along the Mohawk," has a summer place near us; I do not, however, know him. I expect, this summer, to try and write some music; I have had that urge for some time. I don't expect to play in or manage an orchestra this summer, largely because I want to retain these next three months to myself.

And incidentally, Amazing Stories will play no unimportant part in those three months. It'll be part of the vacation.—*Thorpe McClusky, Hartford, Conn.*

* * * * *

EDMOND HAMILTON Author of
THE MAN WHO LIVED TWICE

SINCE my science-fiction tales have been coming out for the last thirteen years, the impression may be abroad that Hamilton is an old guy with a beard down to here. As a matter of fact, I'm now thirty-three. Started out to be an engineer, but my college career was terminated after three years by official request. Then the sale of a couple of yarns started me writing steadily, and I'm still at it. Unmarried, and I live in a small Pennsylvania city.

One of my two chief pleasures is batting around on purposeless trips, from New York to San Francisco and Quebec to Mexico City. My other recreation is arguing with Jack Williamson, and I've been able to combine the two nicely, as Jack has made most of the trips with me. Between arguments, we've had fun navigating a skiff down the entire Mississippi River, batching it for a winter in a Florida shack, branding calves on the New Mexico plains, upsetting a sailboat in the Atlantic, and such like.

I get keenly interested in a science-fiction story once I've started it, and in fact, I can't imagine anyone writing this kind of fiction who isn't a bug on it. I've had quite a number of detective and horror yarns published from time to time, but don't get the kick out of doing them that I do out of fantastic tales. I wish, however, that more biological stories would appear—the possibilities there have hardly been scratched.

Generally, I read semi-popular scientific works until an idea for a story penetrates my skull. Now and then a title pops into my mind, and I work up a story around it. Every now and then I bog down in the middle of a story, and swear horribly and vow to quit writing. But after a dozen years, I'm still at it—nothing else I've tried is as much fun!—*Edmond Hamilton.*

* * * * *

FREDERIC ARNOLD KUMMER, Jr. Author of
PIRATES OF EROS

OF all the various fields of writing . . . and I have written for many . . . I find no more interesting group than the science-fiction magazines.

The author, for instance, feels closer to his readers, feels that they take not only an interest in his stories, but in him as an individual. And the editors are delightfully human, showing a personal interest in each story, making suggestions for changes if it is not just what they want. A far cry this from other publishing houses who either send the writer a check or a rejection slip. It is really quite like a big club . . . a club with very few drifters. That is, the readers all seem to buy their magazines regularly, year after year, regarding it as *their* magazine.

Of course, we occasionally meet among our friends scornful persons who want to know if we really believe the "stuff" we write or read. To me that's like a red flag to a bull. Certainly, we believe it. Not to the exact letter, perhaps, but in spirit, surely. The world has shown a steady record of progress for thousands, hundreds of thousands, of years. Unless human life is unexpectedly blotted out, it will continue to advance. We, the science-fiction writers and readers, merely express our beliefs as to what the world of the future will be. True, we may be wrong . . . but the important thing is that we create within the minds of men a dream, and whatever man has dreamt, man has sooner or later accomplished. We the writers and you the readers share a belief . . . a belief in progress, scientific advancement. We are the trail breakers. Some day a scientist will have faith in these dreams, make them realities. Then the scoffers, the hard-headed gentlemen who see no further ahead than their noses, will rush to the fore, turn our dreams and the scientists' work into cold cash. Yet without the dream, neither scientist nor capitalist could have gone ahead. And surely when the visions of today, be they interplanetary travel or atomic power, are realities, the scoffers will glance scornfully at further dreams of the future and grunt, "Impossible!"

I have before me a letter from my great-grandfather to my great-grand-mother, describing the first run of the Baltimore and Ohio railroad. To quote, "The machine actually attained a speed of some twenty miles an hour, thus annihilating time and distance!" Suppose that worthy gentleman had read a newspaper of today, of round the world flights, of three hundred mile an hour speeds, of radio and television. Would he not have raised a contemptuous eyebrow and murmured, "Balderdash!"

So it is with the scoffers, always. Afraid of the laughter of the world, they take refuge in utter disbelief. They are to be pitied. You have the courage to look ahead, are the ones who *create* the future. The world a hundred, a thousand years from today is not a fixed, predestined thing; it is merely the concrete sum of today's dreams. And the greater, the loftier our dreams, the more splendid tomorrow's achievements will be. To be sure, all credit will go to the scientists, the builders, yet if you and I, the visionaries, should be permitted to view the worlds of the future, we could hold up our heads, point to the glories of those worlds, and say, "Those are our dreams!"—*Frederic Arnold Kummer, Jr.*

STANLEY G. WEINBAUM Author of
REVOLUTION OF 1950

ALTHOUGH we gave an excerpt from an auto-biographical sketch originally published in *Fantasy Magazine* in our October issue, yet there remain a few things of interest to say about the author of *Revolution of 1950*.

The short year previous to his death on December 14, 1935, was perhaps the most interesting to him of all, largely because of his rapidly growing success in the science fiction field. He'd written much fiction previous to his science fiction efforts, and had several novels published in newspaper serial form which attained popularity. But he didn't enjoy writing this form of fiction. When he really wanted to be creative, he worked on several stories he had never considered selling, but just as a means of pleasure to himself in the writing. He loved these stories.

Then, reading up all science fiction he could obtain it was natural that he run across the pulp science fiction magazines. For a time he read them, growing more interested with every story, until finally he became engrossed in the idea that here was something he could turn to, to express the fanciful things that ran through his fertile imagination; fanciful things backed by his very solid university education, and a great natural grasp of things scientific.

Thus, he decided to write a science fiction story and to submit it to a science fiction magazine. He jokingly wrote the story with as much fantasy and natural humor as he deemed a more or less burlesque of science fiction. His own amazement at the tremendous praise heaped on "A Martian Odyssey" never completely left him. He hadn't meant it to be an example of perfect science fiction, but just a clever parody on the inept science he'd noted other authors use.

And then, he began to write in real earnest, and he put into each story all the real ability he had been putting into those "hobby" stories of his. And in one short year, he became the leading author in science fiction. He never had a story turned down. And when he died, a lot of his writings were purchased and published which were not strictly science fiction, yet were fantastic enough to warrant publication.

But perhaps his greatest pleasure during that year was attending the bi-weekly meetings of a group of his local writing conferees, called the Fictioneers. Among them was a western story writer of note, Lawrence A. Keating and Weinbaum greatly admired his ability at plot construction. It was one of the "hard" things about writing he could never master. But when he hit on the idea of adapting Keating's western story plots to science fiction; "placing them on a planet" as he described it, his difficulty was ended. He had discovered a plot shortcut that gave him the needed material to make the fantastic part of his imagination come to life.

"Revolution of 1950" was born at one of these

meetings. Having successfully collaborated with Ralph Milne Farley on a gangster story, he suggested a science fiction collaboration. He had an idea for a story which tied in with a scientific fact Farley had been trying to work into a story. Thus, they decided to collaborate, and arranged to work with the understanding that Weinbaum was to do the first draft, and Farley was to finish the story.

Stanley G. Weinbaum finished his first draft, but he never lived to see the manuscript completed. Nor was it completed till long after his death, largely at the demand of those fans who had heard of the story, and expressed their desire to see it published.—Rap.

* * * * *

THORNTON AYRE Author of
SECRET OF THE RING

THE mystery of the Deluge has always seemed to me to be one of the most interesting events in history. The many legends of the world, of every race, almost all agreeing as to detail, indicate it was a world-wide event.

Therefore, it seems to me it must have been caused by some natural phenomenon which would affect the entire globe. I can imagine no more logical reason for such a catastrophe than a building up of the natural inner pressure of the earth, and it is upon this hypotheses I have constructed the story of the mysterious ring of Elsa Dallaway.

Perhaps my inclusion of the rather argumentative subject, reincarnation, is an indication of my own more or less secret belief in such things, and perhaps it is not. However, it did lend itself to the mystery of the story so well that I myself was amazed at the final satisfactory result.

The fact that there have never been discovered in the Sahara any ancient ruins other than Greek, Roman, and Arabian, might cause some readers to question my placing of the locale of an ancient Atlantean city in that vicinity. However, what legends we have of Atlantis are tightly bound up with Gibraltar (Atlas) and the Mediterranean. To my mind, the north of Africa is the most logical place to look for such ruins, if the time-effacing effect of 12,000 long years could leave anything recognizable in that sea of sand. Anyway, I like to think so.—Thornton Ayre, Lancashire, England.

* * * * *

ED EARL REPP Author of
SONG OF DEATH

THE vibrations of sound have a peculiar effect on many things, and the example of the tuning fork is perhaps the most striking.

Sonic vibrations can effect many things, and certain noises can make me grit my teeth as they seem to tear at something inside me. We have all experienced these phenomena.

Thus, I conceived the idea of a super-sonic wave which would cause the nerve and brain cells to vibrate, inducing false emotions. That was the focal point, and with the addition of a plot, several characters, and a motive for murder, I had a story.—Ed Earl Repp, Van Nuys, California.

STRATOSPHERE AIRLINER OF 1988

(SEE BACK COVER)

Conceived and Designed by Julian S. Krupa

OUR back cover this month presents a futuristic concept of the giant stratosphere plane of fifty years from now. In preparing this prophetic feature, we have been guided by aviation developments of the present day, and have carried them forward to what we consider to be the most logical, in fact the most probable, mechanical evolution. In this task we have been aided greatly by the editors of Popular Aviation, one of Amazing Stories sister magazines.

Perhaps, even to the present-day layman, the ship we have envisioned does not seem in the least fantastic. Aviation of 1938 has already taken great strides toward that final stability of principle, design, and engineering which is the ultimate end of all new inventions. And in taking those strides it has indicated with surety the trends toward that final perfection. Mechanically, these trends are definitely toward large size, super-powerful motors, perfect stability, and perfect safety. Commercially, toward high speed, great height, and increased load capacity.

Dealing with each of these trends in turn, large size in aircraft of a commercial passenger and freight carrying nature is a certainty. It is only in size that economy of operation can be achieved. Aviation experts confidentially assure us that the plane of the future will carry a hundred and more passengers in the luxurious comfort of a modern ocean liner, in a marvelously compact, yet roomy manner. There will be comfortable individual cabins for each passenger, even suites of cabins for those who desire them. There will be recreational salons, gymnasium, television and radio theatre. A promenade will provide a grand view of scenery for below. There will be all the conveniences necessary for the comfort of the passenger. Excellent meals, prepared by experienced chefs will be served in a luxurious dining room. In fact, the entire ship will be a vast flying palace, arranged with astounding engineering skill into a marvelous compactness.

In order to attain such large size, all the skill of modern and future engineers will need to be used in the development of giant motors with sufficient power to maintain its great bulk aloft with a degree of reserve efficiency which will allow a sufficient margin of safety. These motors will present many problems. There will be the problem of a powerful fuel, plus the very great problem of heat control. The first will be solved by a new type of carburetion and mixture chambers in which gasoline will be vaporized and mixed with oxygen and hydrogen. In addition to gasoline, the fuel tanks will contain compressed oxygen tanks. Perhaps of the ship's eight great motors, all will be capable of operating at lower levels on the gasoline and oxygen mixture, while in the stratosphere,

four of them will be designed to add the highly explosive and hot oxygen gas. There will be no fuel tanks on board to carry this hydrogen, but it will be drawn by all eight motors directly from the almost pure though rarefied supply of that gas in the stratosphere by means of special condensers working as part of the new system of cooling that will be necessary at these great heights. These condensers will remove and store in tanks the hydrogen captured by them as the extremely open-designed motors are cooled. The surplus heat may be conducted to special steam turbines in the ship proper, for heating the ship and providing electric power for all the varied necessities of the ship. Thus, there will be a direct relationship between motor cooling, and the solving of the plane's other power problems.

Stability will be accomplished by a series of powerful gyroscope controls in the wings and body of the ship. Even the bumpiest of air pockets will have no effect whatever on the ship, and it will be quite possible for the inevitable safety-match construction engineer to erect marvelous edifices atop his empty champagne bottle. Nor will the passenger any longer be restricted against congregating in one portion of the ship, but even crowding the theatre, far back in the tail will have no effect of off-balancing the ship.

There will be no danger of landing with anything other than a perfect three-point landing, due to these gyroscopic controls. Nor will there be any other human elements in any of the actual piloting of the ship. Even its direction, height, and speed will be controlled by radio, and its controls will be entirely automatic, operated by photo-electric robots. The design of the ship itself will be planned for utmost performance in the known and perfectly charted conditions of the stratosphere, where the weather remains eternally the same. Four great rudders will provide sure control of direction, even in high ground winds.

Scientifically, there will be embodied many new principles. Although this great ship may seem to be incredibly heavy, on observation, the actual fact may be that it weighs considerably less than the giants of the present day, whose flight is cumbersome and overloaded compared to this future ship. Already science has achieved levitation in the laboratory, and a giant rotor, magnetically charged, will partially offset the effect of gravity, reducing the weight of the ship by fifty percent.

Infra-red vision will eliminate all blind flying, even instrument flying. A marvelously clear reproduction of the entire landscape below will be reproduced in the control cabin, giving not only a flat, two-dimensional concept of the terrain below, but a three dimensional analysis of every

height and valley to be crossed. There will be no danger of crashing into unseen obstacles even when landing into impenetrable cloud formations.

In stratosphere flying, new problems of construction will be encountered. The vast difference of atmospheric pressure will force radical changes from present-day design, materials, and fabrication. The pressure at an elevation of 25,000 feet is 785 pounds per square foot outside the ship, and 1572 pounds per square foot inside the ship. On a small door, therefore, there will be a pressure of six tons, and on a small window, 1000 pounds.

At a top-speed of 750 miles an hour a propellor loses its pull. Therefore, new propellor designs will be necessary, perhaps giant four-bladed screws will replace the props of today.

Since the burden increases as a cube (product of the length, breadth and height of fuselage) and the lift power increases only as a square (product of linear dimension of wings), the wings will of necessity be gigantic, and enormous in spread. A great amount of the burden of the ship will be housed in these wings, such as fuel tanks, me-

chanics' quarters, gyroscopes, etc.

Hull material may be some new alloy since stainless steel is too hard to work, and contraction and expansion problems will be great ones at the extreme temperature changes the ship will encounter each flight. Duraluminum corrodes in salt air.

Speed will range from 270 miles per hour at 30,000 feet (which is attained by present day ships) to the future speed of 450 miles per hour at 50,000 feet. Due to the new motors and new type fuels, flights half around the world will be made as non-stop schedules. New York to Melbourne may be made in 26 hours.

And as these ships fly the oceans, the surface below will be unbroken by the passenger liners of today, which will be definitely out-moded. None but freighters will ply the waters of the world. Man will take to the air in 1988 when he desires to travel. Only a fool, or a very rich man, will be willing to submit to the loss of time and danger of surface travel. For high in the stratosphere will be luxury, high speed, and complete safety for the traveler.

SCIENCE QUIZ ANSWERS

TRUE OR FALSE

1. True.
2. False.
3. True.
4. False—colloidal matter has great adsorptive (adhesive) power.
5. False—igneous rocks contain 60% potash and soda feldspars.
6. False—Osmium is the sixth, not molybdenum.
7. True.
8. True.
9. False—the oxide prevents further corrosion.
10. True.

SCIENCE TEST

1. Jupiter.
2. Fat.
3. Isotopes.
4. Diffraction.
5. Mars and Jupiter.
6. The ability of plants to use the energy of sunlight in breaking up carbon dioxide and building up carbon compounds.
7. A fossil of the Upper Cambrian and Carboniferous ages.
8. Polished stone.
9. Reflections from the inner and outer surface of the bubble being mixed causing interference between the two.
10. Amethyst.

SCRAMBLED SCIENCE TERMS

1. URANUS.
2. ALUMINUM.
3. ROCKET.
4. STONE AGE.
5. HELIUM.

STRIKE OUT THE WORD THAT DOES NOT CONFORM

1. Meniscus.
2. Mercury.
3. Meteor.
4. Dodo.
5. Telepathy.

PROBLEM

On the tenth night. The stars blew up in this order: 1-2-4-8-16-32-64-128-256-512. Thus, the first nine nights 511 stars blew up and on the tenth night 512. Therefore the stars were not half gone until the tenth night when the first of the 512 blew up.

CORRESPONDENCE CORNER

John McMahon, Box 55, L'Anse, Michigan, wants pen pals from anywhere. . . . M. Edwards, Newton Road, Haynford, Norwich, England, wants pen pals. Interested in aviation, wireless, shooting, science in general. . . . Frank D. Wilson, 16 Pilkington Road, Southport, Lancashire, England, wants all persons in his vicinity interested in science fiction to contact him in regard to forming a science fiction league. . . . E. J. Harriman, Jr., 210 N. Western Ave., Marion, Indiana, wants pen pals, old-timers in science fiction. . . . Waldo Church, 2227 Ave. G, Council Bluffs, Iowa, wants letters from those interested in astronomy. . . . Jack K. Combs, 2632 Kingston Drive, Houston, Texas, wants correspondents of own age (17) from anywhere, especially foreign.

COLLECTOR'S CORNER

M. Korshak, 522 Oakdale Ave., Chicago, Ill., has almost complete files of science fiction for sale. . . . W. vanRoosbroeck, 3238 Oxford Ave., New York, N. Y., has AMAZING's first 59 issues complete, and AMAZING QUARTERLY, first 13 issues.

Believe It or Not! by Ripley



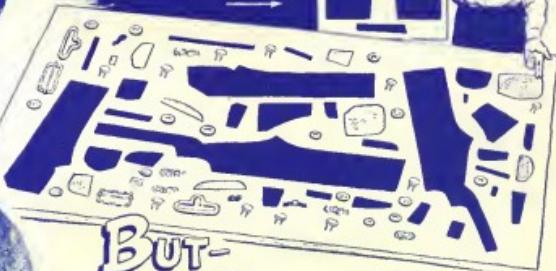
JUST LIKE DAD'S-
IN FIT AND WEAR!

RIPLEY'S EXPLANATION: An overall could be made by sewing up the 10 pieces shown above—if you don't care how it fits and wears. But in order to make an overall fit as perfectly as a Lee Jelt Denim, you need 76 parts—and each piece of cloth must be cut as accurately as the parts of a fine suit. This gives you "tailored" fit not only in leg length but in waist, crotch and bib height. Most important of all, Lee is

NO OTHER OVERALL WEARS LIKE

LEE JELT DENIM!

A PAIR OF OVERALLS
CAN BE MADE WITH
AS FEW AS 10 PIECES
OF CLOTH 5 BUTTONS
2 BUCKLES & THREAD



BUT—

IT TAKES 76 PARTS AND 484 OPERATIONS
TO MAKE SUPER-COMFORT TAILORED-SIZE



NO TWO OF THESE 6 MEN
ARE BUILT ALIKE

YET YOUR LEE DEALER CAN
GIVE THEM ALL TAILORED-FIT
IN WAIST, LEG-LENGTH, CROTCH
AND BIB-HEIGHT, BECAUSE Lee
CUTS EACH PART ESPECIALLY TO
FIT EACH BODY MEASUREMENT.

Lee
**JELT DENIM
OVERALLS**

SEND FOR PROOF!

THIS MINIATURE
CUT-OUT OVERALL
OF JELT DENIM
WILL SHOW YOU
WHY THIS TOUGH
MULTIPLE-TWIST
FABRIC WEARS
LONGER—
BELIEVE IT OR NOT!
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H.D.LEE MERCANTILE CO., DEPT. N-10, KANSAS CITY, MO.
—PLEASE SEND ME THAT MINIATURE CUT-OUT OVERALL
AND MY NEAREST Lee DEALER'S NAME, TOO!

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the only overall made of genuine Jelt Denim—sanforized to end shrinking and woven with multiple-twist yarn to meet the test shown here and dozens of other hard wear and working tests... believe it or not!

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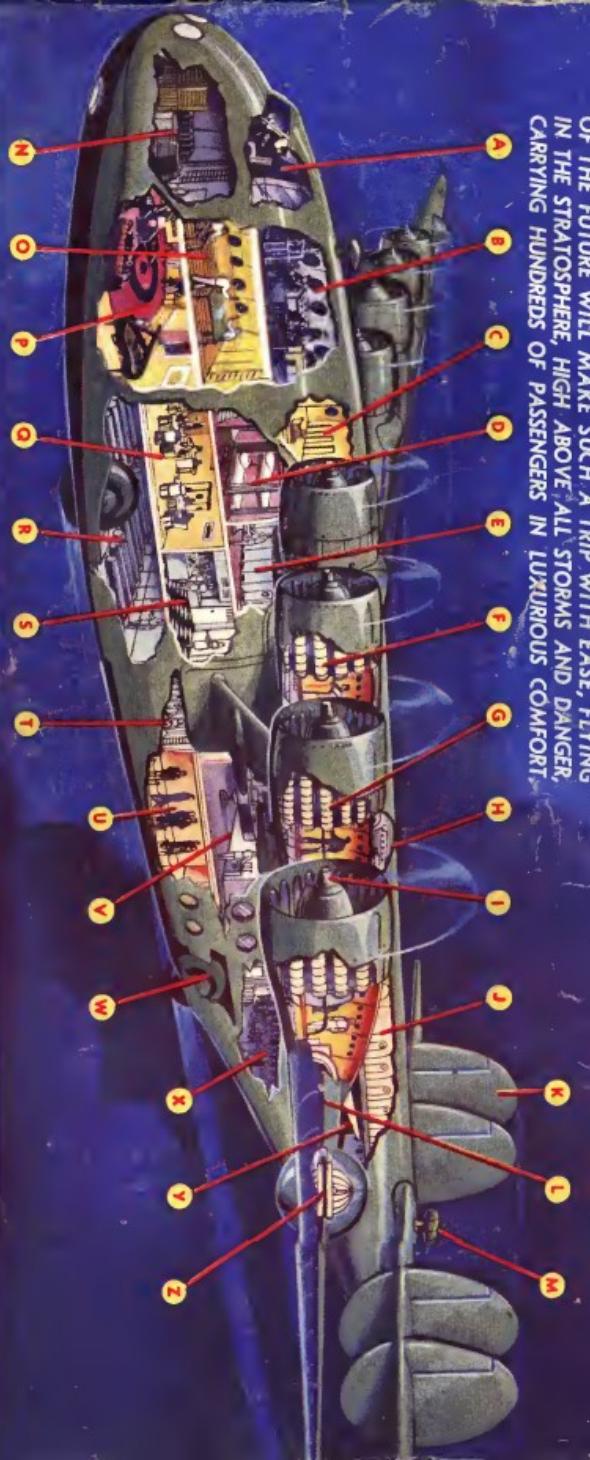
Kansas City, Mo.
San Francisco, Calif.

Trenton, N.J.
Minneapolis, Minn.

South Bend, Ind.
Salina, Kans.

STRATOSPHERE AIRLINER OF 1988

NEW YORK TO PARIS IN TEN HOURS! THIS MARVELOUS GIANT OF THE FUTURE WILL MAKE SUCH A TRIP WITH EASE, FLYING IN THE STRATOSPHERE, HIGH ABOVE ALL STORMS AND DANGER, CARRYING HUNDREDS OF PASSENGERS IN LUXURIOUS COMFORT.



When we stop to consider the progress of aerial science during the years since the Wrights lifted their unwieldy craft aloft, we can't help but make an attempt to picture the plane of the future. Already the day of the giant airliner has come, and the trend is definitely toward large size and toward higher flight levels. We will build larger ships as time goes by, and we will send them ever higher, until finally we utilize the stratosphere lanes where exist the ideal conditions to insure swift transportation to any part of the globe with the greatest possible safety factor. No storms, no uncertain conditions, no varying ceiling, but uniform and prevailing weather factors which can be permanently charted. That these giants of the heights will hurtle through the rarefied air at cruising speeds of 450 miles per hour, at the 50,000 foot level is not a vague dream but a scientific feasibility. In this graphic diagram we have attempted to depict the stratosphere airliner of 50 years from now, with a few of the scientific marvels of construction and engineering that will make it an actuality.

A	Pilot Control Room
B	Radio-Navigation Room
C	Officers & Crew Quarters
D	Special Passenger Suites
E	Lavatory & Wash Room
F	Alternate Gasoline Motors
G	Alternate Hydrogen Motors
H	Hydrogen Compressor Unit
I	4-Blade Adjustable Props
J	Passenger Salerooms
K	Super-Area Rudders
L	Wing Fuel Tanks
M	Television Receptor
N	Cargo Storage Hold
O	Hand Ball Court & Gymnasium
P	Passenger Lounge
Q	Dining & Cocktail Room
R	Compressed Oxygen Tanks
S	Kitchen & Food Storage
T	Fuel Mixing Chamber
U	Promenade Deck
V	Gravity Nullifier Rotor
W	Landing Wheel
X	Television Theatre
Y	Television Projector
Z	Gyro Wing Stabilizer